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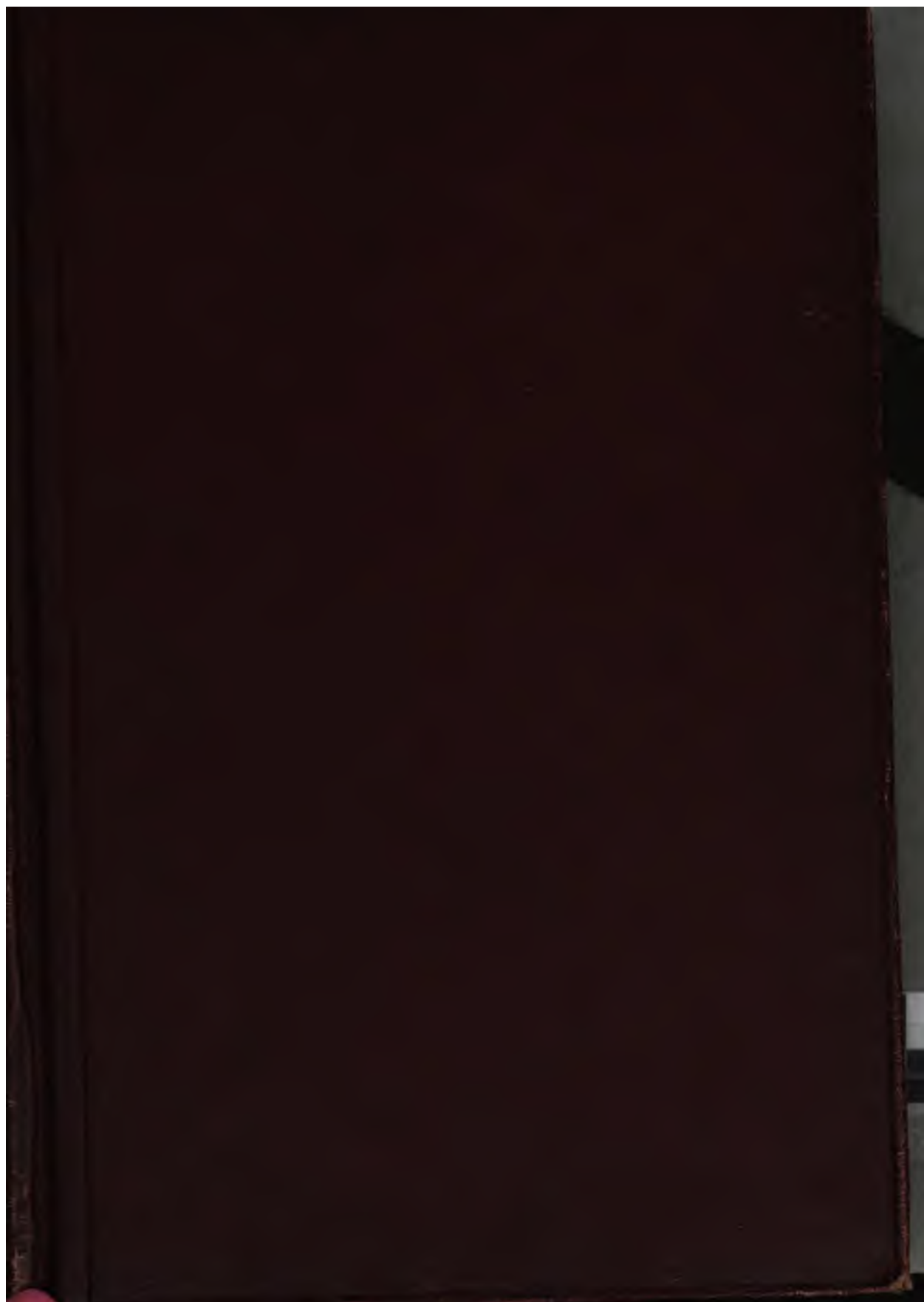
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**A REVIEW OF THE HISTORY
OF INFANTRY**

A REVIEW OF THE HISTORY OF INFANTRY

BY

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LONGMANS, GREEN, AND CO.
39 PATERNOSTER ROW, LONDON
NEW YORK, BOMBAY, AND CALCUTTA
1908

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PREFACE

IN a boat-race each man of a crew must do his best and all must pull together. So in war: individual efficiency must go along with united action. Lord Wolseley has said in praise of drill that "it not only trains the body, but it disciplines the mind at the same time. It teaches men the first rudiments of obedience; and if I were asked what is the greatest of all military virtues, a virtue even higher than courage, I should reply it was absolute unquestioning obedience."¹ On the other hand, Lord Roberts has pointed out that "the backbone of a thorough military training is the careful and gradual instruction of the individual, officer or soldier, in every duty he may be called on to fulfil, and the development to the utmost of his mental and physical powers. But such development is impossible unless free play is given to individual intelligence and initiative."²

These doctrines are not contrary to one another, but supplementary; they are the two halves of the truth. Sometimes the one needs emphasising, sometimes the other. As Dragomirov says: "In order to carry out military duties we require *punctuality* and *promptitude* in the execution of orders, based upon a *boundless devotion*, and sustained by the *active working of the*

¹ *R.U.S.I. Journal*, 1895, p. 56.

² Preface to *Infantry Training* (1902).

intelligence."¹ It is one object of drill to make certain motions become second nature to the soldier, so that he will execute them instinctively in the excitement of action. But, in these days especially, he must be something more than a machine. He must learn to combine reason with instinct, self-reliance with self-surrender.

In Herbert Spencer's *Sociology* the militant type is treated as the forerunner of the industrial type, not as its companion and counterpoise. It is admitted to have played a useful part in the evolution of society, by welding tribes into nations, and training men for voluntary co-operation: but its work is done and it is doomed to disappear. If so, the more progressive peoples, being the first to lose their militant characteristics, are bound to fall a prey to the less progressive. But history shows that success in war has been due quite as much to industrial traits—individual energy and enterprise, as to militant traits—subordination and cohesion. Industrialism not only supplies the sinews of war, improved weapons, and accessories of all kinds; it demands and develops characteristics which are indispensable to the soldier. Nation after nation has gained predominance by one kind of excellence, and lost it by want of the other kind. For continuous success the two must go hand in hand. In short, for war as for peace, individualism and collectivism must be harmonised.

A distinguished officer has declared his conviction "that up-to-date civilisation is becoming less and less capable of conforming to the antique standards of military virtue, and that the hour is at hand when the modern world must begin to modify its ideals, or prepare to go down before some more natural, less complex, and less nervous type. . . . City-bred dollar-hunters are

¹ *R.U.S.I. Journal*, 1887, p. 973.

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becoming less and less capable of coping with such adversaries as Deerslayer and his clan.”¹ True enough: but after all Deerslayer was a product of civilisation, and was on the whole a better fighting man than Chingachgook.

¹ *A Staff-Officer's Scrap-book*, vol. i. p. 5.

*“ Ne lisez pas l’histoire pour apprendre
l’histoire, mais pour apprendre la guerre, la
morale et la politique.”—BELLEISLE.*

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A REVIEW OF THE HISTORY OF INFANTRY

I

THE GREEKS

HERODOTUS tells us that when Greek met Persian at Plataea, "in courage and in strength the Persians were not inferior, but they were without armour, and moreover they were unversed in war and unequal to their opponents in skill."¹ It seems strange that this should be said of the picked troops of a wealthy empire which had conquered all its neighbours, and was now dealing with the burghers of some small city-states. But it is explained by the history of the two races and the character of their respective countries.

Medes and Persians were highlanders, bred in the mountain ranges which run south from Ararat. The bow was their native weapon. As children they were taught to ride, to shoot, and to speak the truth. Horses were at one time rare among them, but (if we may believe Xenophon²) Cyrus taught his mountaineers to look upon it as discreditable for any man who had a horse to go on foot. In the open plains of Mesopotamia he had found that he must have cavalry to reap the fruits of victory; but infantry never reaches a high standard where foot service is despised.

¹ Herodotus, ix. 62.

² *Cyropædæia*, iv. 3.

Horse and foot alike relied chiefly on missiles. The frieze of Darius' palace at Susa shows us the men of his footguards, armed with a seven-foot spear and a bow of half that length, with felt caps or turbans, and long tunics with loose-hanging sleeves. Large quivers are on their backs. Herodotus says that they had a sort of scale armour and shields of wicker-work, and a dagger hung from the girdle on the right.¹

Such men were ill-fitted for hand-to-hand encounter with the Greek hoplites. In Greece, and especially in Peloponnesus, the conditions were singularly favourable for the production of good infantry, well trained and well equipped. It was "a land of hills in the midst of the sea." Its mountains cut it up into cantons, and hindered the growth of any widespread despotism. Its valleys were too narrow to give much scope for cavalry. Its soil demanded labour, but not incessant labour; and its bracing yet genial climate encouraged an active outdoor life. The people had the hardiness and independence of mountaineers, while the neighbourhood of the sea saved them from the rudeness and poverty of mountaineers. They borrowed their weapons and armour and learnt skill in metal-work from trading peoples, Carians and Phœnicians. Their warlike aptitude was developed by an incessant struggle for existence.

This was especially the case with the Spartans. "Few against many," they had conquered the valley of the Eurotas, and to maintain themselves against their subject races they needed every man they could muster, and the best organisation and training. The features of the military spirit—fortitude, obedience, conservatism, superstition, imperiousness and contempt for the weak—characterised the Dorian race as a whole, and were most

¹ Herodotus, vii. 61.

fully developed in Lacedæmon. Sparta was a camp rather than a city, and every man of military age was said to be on guard. Not blending with the former inhabitants, the Spartans drew their fixed share of the produce of the land as a tribute from the Helots, and devoted themselves to military training as a soldier caste. From the age of seven the young Spartan was practised in athletic exercises. At eighteen he received his arms, and was instructed in the use of them. At twenty he took his place in the ranks, and not till ten years later was he reckoned a fully trained soldier, and allowed to marry.

The whole strength of a Spartan army lay in its heavy-armed infantry (hoplites). It was left to Helots to serve as light infantry, throwing darts and stones; and though the richer citizens had to provide some cavalry, it was held in so little esteem that they did not serve in it themselves. Even the band of 300 picked youths who formed the king's bodyguard, and bore the name of "Horsemen," fought on foot. The equipment of the hoplite—brazen helmet, breastplate and greaves, oval shield, sword and spear—is reckoned to have weighed about three-quarters of a cwt.,¹ but a slave helped to carry it on the march, and a Spartan force could cover 100 miles in three days on occasion.² The spear was not more than 9 feet long; it was wielded with one hand, and was levelled at the height of the hip for a charge.

The Spartan system of command seemed to Thucydides worthy of particular mention: "[the king] gives general orders to the polemarchs, which they convey to the commanders of lochi; these again to the commanders of pentecosties, the commanders of pentecosties to the commanders of enomoties, and these to the enomoty."³

¹ Rüstow and Köchly, p. 44.

² Herodotus, vi. 120.

³ Thucydides, v. 66.

This marks out the enomoty, or band of sworn comrades, as the tactical unit. At Mantinea (B.C. 418) its strength was about thirty men; it formed four files with an average depth of eight men.¹ Xenophon, a little later, speaks of it as forming sometimes three, sometimes six files, according (we may suppose) as it was eight deep or four deep. As to the larger units, Thucydides reckons four enomoties to the pentecosty, and four pentecosties to the lochos, but Xenophon halves these numbers. The point is not of much importance, as the units were drawn up side by side in phalanx, with no second line or reserve. They were local not numerical units, and their strength would vary with the population of the ward from which they came and the number of classes called out. All Spartans were liable to military service from twenty to sixty years of age, but the youngest and oldest classes were seldom sent into the field.

Originally the other Laconians (Periœci) formed separate lochi, but this was altered in the course of the fifth century B.C. During the Peloponnesian war the decline in the number of Spartans made it necessary to use even Helots as hoplites in distant expeditions.²

As the best men were placed in the front ranks, it was important that those ranks should always be presented to the enemy from whatever quarter he might attack. The men were therefore taught to countermarch, and to move in column of sections, from which they could either wheel into line to a flank, or prolong the front of the leading section.³ Constant practice gave them a proficiency in drill which served them well in emergencies, such as that of Mantinea,⁴ where bad leadership had opened a gap in their line through which the enemy

¹ Thucydides, v. 68.

² Rüstow, i. 26, &c.

³ *Ib.*, iv. 80.

⁴ Thucydides, v. 72.

forced his way. At Thermopylæ, we are told, "being men perfectly skilled in fighting opposed to men who were unskilled, they would turn their backs to the enemy and make a pretence of taking to flight."¹

On the march each man was allowed 6 feet, both in breadth and depth, but ranks and files closed up for the fight, and even locked shields. A battle was regarded as a duel, and the tactics were of the simplest, a direct advance and engagement along the whole line. But there was always a tendency to drift to the right, each man seeking protection for his unshielded side,² and this habitually led to the outflanking of the left of each army by the other.

In advancing to the attack, "the Lacedæmonians moved slowly and to the music of many flute players,"³ in order that they might keep their ranks even, and deliver their blow as a whole. The battle was a festival, to be entered upon in choicest clothing, with hair dressed and garlanded, but there must be no disorderly eagerness for the fray. After victory they did not follow fast or far in pursuit. They disliked fighting on rough ground, or breaking through artificial obstacles, where disorder was inevitable. They were essentially line-of-battle troops. In the third Messenian war they invited the Athenians to aid them in taking Ithome because of their greater skill in siege operations.⁴

War demands other things besides discipline and stubborn courage. The Athenians, with their quicker intelligence and more varied life, found compensations for their inferiority at "push of pike." They were better seamen and marines, and their naval predominance brought them wealth with which to hire mercenaries,

¹ Herodotus, vii. 211.

² *Ib.*, 69.

³ Thucydides, v. 71.

⁴ *Ib.*, i. 102.

and support their fighting men. They had learnt the value of bowmen from the Persians, whom they had been the first to encounter. It seems probable that Marathon, which has been ranked among the decisive battles of the world, was really little more than a rear-guard action. The greater part of the Persian army, including the cavalry, had re-embarked, when Miltiades saw his opportunity and fell upon the covering force. There is nothing to show that the Athenians suffered much from the Persian archery, in fact their whole loss is put at less than 200 men; but when they met the same invaders again at Plataea, eleven years afterwards, they were provided with bowmen procured from Crete.

Either on this account, or because he thought Athenian no match for Boeotian hoplites, Pausanias proposed that the Athenians should face the Persians and the Lacedaemonians should deal with the renegade Greeks who formed the right wing of the invading army; but the Boeotians frustrated this arrangement. When the Lacedaemonians found themselves assailed, first by clouds of mounted archers, and then by foot archers, Pausanias sent an urgent message to the Athenian commanders to lend him their bowmen if they could not come themselves to help him. The Athenians had their own hands full, and the Lacedaemonians, charging the line of wicker shields which covered the foot archers, drove the Persians back to their intrenched camp; but it was not till the Athenians came up after defeating the Boeotians that the camp itself was carried.

The Athenians soon had bowmen of their own, drawn from the lowest class of citizens, who did not serve as hoplites. At the beginning of the Peloponnesian war their field forces mustered 13,000 hoplites, 1200 horse-

men, and 1600 archers.¹ They also hired Rhodian and Thessalian slingers, Ætolian and Acarnanian javelin-men, and Thracian peltasts, who fought hand to hand with sword and buckler. The sea was the Athenian element, and whether for naval actions, or for descents upon the coast, a mixture of light and heavy armed troops was essential. The affair of Sphacteria (425 B.C.) illustrated their co-operation. A body of 420 Lacedæmonians, of whom less than half were Spartans, was blockaded in a small island, from which they could not escape. After trying in vain to starve them out, the Athenians landed 800 hoplites, and some thousands of light troops, to make an end of them. The Lacedæmonians, few as they were, tried to close with the hoplites; "but having light-armed adversaries both on their flank and rear, they could not get at them or profit by their own military skill, for they were impeded by a shower of missiles from both sides. Meanwhile the Athenians, instead of going to meet them, remained in position, while the light-armed again and again ran up and attacked the Lacedæmonians, who drove them back where they pressed closest. But though compelled to retreat, they still continued fighting, being lightly equipped and easily getting the start of their enemies. The ground was difficult and rough, the island having been uninhabited; and the Lacedæmonians, who were encumbered by their arms, could not pursue them in such a place."² At length when the Lacedæmonians were completely surrounded, and one-third of their number had been killed, the remainder surrendered; and it says much for the Spartan prestige that this should have been regarded as a serious blow to it. "It was universally imagined that the Lacedæmonians would never give up their arms, either under

¹ Thucydides, ii. 13.

² *Ib.*, iv. 33.

pressure of famine, or in any other extremity, but would fight to the last, and die sword in hand."¹

The duration of the Peloponnesian war increased the demand for mercenaries, and made soldiering a profession. At first only light troops, they soon began to serve also as heavy infantry, especially when they were maintained as a standing force by Persian satraps or other despotic rulers. They were usually raised as companies of about 100 men. They received good pay, but had to provide their own arms and equipment. In the contingent which accompanied the younger Cyrus to Cunaxa there were 11,000 hoplites and 2000 light-armed men. During the subsequent retreat of the Ten Thousand, the prolonged service in the field, the variety of enemies encountered and of countries traversed, suggested changes in tactical formations and in individual equipment. There was need of something more flexible and mobile than the simple hoplite phalanx, and there was frequent occasion for the combined action of the different arms. The hoplites were formed into small company columns with a depth of sixteen men, and with wide intervals between them. The peltasts and archers were sometimes in front, sometimes in the intervals.² It was also found advisable to provide a reserve in some cases, by posting bodies of 200 men behind the wings and centre. Corps of cavalry and slingers had to be improvised, for they had formed no part of the Greek contingent.³

The influence of this more varied campaigning may be traced in the reforms introduced by Iphicrates. He was an Athenian and a leader of mercenaries, who first saw service in Thrace, perhaps under Xenophon. About 390 B.C. he astonished Greece by routing a Lacedæmonian

¹ Thucydides, iv. 40.

² Xenophon, *Anabasis*, iv. 8, v. 4, vi. 5.

³ *Ib.*, iii. 3.

battalion of 600 men near Lechæum. It was on the march, unaccompanied by cavalry or light troops, when he attacked it with his peltasts, supported by some Athenian hoplites. The younger men of the battalion were ordered out to drive the peltasts away, but the latter fell back on their own hoplites, and then returned to the assault with fresh volleys of javelins. Some cavalry joined the Lacedæmonians, but proved of little assistance, as instead of pursuing boldly, it kept abreast of the foot. The Lacedæmonians made a stand on a hillock for a time, but on the approach of the Athenian hoplites they fairly took to flight, with a loss of nearly half their men and lasting damage to their reputation.¹

The credit which Iphicrates won by this achievement was enhanced by the admirable training and discipline of his men, and by many instances of his wiliness and resource. He taught his soldiers to be prepared for every emergency by false alarms, ambuscades, panics, and feigned desertions, for war had by this time become an affair of stratagems rather than a duel. He altered their equipment, making it cheaper—an important point for mercenaries—and lighter, so that they could carry provisions on the march and move more rapidly on the field of battle. He gave them quilted linen jerkins and leather boots. The small round shield, or pelta, 2 feet in diameter, worn on the left arm, left both hands free to wield the spear; and this enabled him to increase the length of the spear to 12 feet or more, giving advantage of reach over the hoplite, and better protection against cavalry. The sword was also lengthened to 3 feet; the hoplite's sword was little more than a dagger.

It has been suggested² that the long spear and long

¹ Xenophon, *Hellenica*, iv. 5, 13, &c.

² Rüstow and Köchly, p. 163.

sword were not given to the same men; that there were two classes of peltasts, one armed with spears and the other with javelins and swords for hand-to-hand fighting. But there is no positive evidence of this distinction. They seem to have formed a medium infantry, available as light troops or as infantry of the line, and they may have chosen their weapons according to the occasion.

As light troops came to play a more important part, so also did cavalry. Greek horsemen had no stirrups and were easily unhorsed. They could do nothing against unbroken hoplites except annoy them with darts. They fought in loose order and made little use of shock, but tried to fall unawares upon a flank. Thessaly and Bœotia with their more open valleys furnished the best cavalry; that of the Lacedæmonians was the worst. The Bœotians attached a footman to each horseman, and the intermixture of horse and foot by placing small parties of light-armed men in the intervals between the troops was a recognised practice. The strength of a troop was about sixty men. The best weapons for horsemen, according to Xenophon, were a short stabbing sword and a pair of cornel-wood spears, one of which might be hurled as a javelin.

However serviceable the new type of infantry might be for minor warfare, the Lacedæmonian hoplite retained his supremacy in pitched battles in the open field. Even to repulse him was reckoned a great achievement. The Athenians put up a statue to Chabrias to celebrate such a success. In 378 B.C. their troops in concert with the Thebans awaited the attack of the Lacedæmonian phalanx. The front ranks dropped on the right knee and propped their shields against the left, and such a hedge of spear-points was presented by the long spears that Agesilaus thought it prudent to draw off his men. But seven years

afterwards, at Leuctra, Thebes won a very different sort of victory, and robbed the Spartans of their pre-eminence.

A well-fed race, with rich pastures and no commerce, the Bœotians had always shown themselves strong and stubborn soldiers.¹ Three hundred of them had turned the scale at Syracuse. Thebans were Bœotians and something more. They were "a conquering caste in an alien land," with an infusion of Phœnician, or at all events non-Hellenic blood. The military organisation of Sparta is said to have owed much to Timomachus, who came from Thebes, and claimed descent from Cadmus. There was perhaps some far-off kinship between Hannibal and Epaminondas.

It was a Theban custom, of which the origin is unexplained, to fight in deep formation. At Delium (424 B.C.) their phalanx was formed in twenty-five ranks, and this massive column broke through the Athenian left, while the Athenian right got the better of the other Bœotians. The timely appearance of some cavalry, which the Theban commander had sent round a hill unperceived to support the left wing, decided the day. At Corinth and at Coronea (394 B.C.) the Thebans had to deal with the Lacedæmonians. Placed on the right of the army, in each case they defeated the allies of Sparta, but were themselves defeated by the Lacedæmonians, who had been equally successful on the other wing, and whose discipline enabled them to wheel promptly and attack their enemies in succession. At Coronea the Thebans, abandoned by their allies and hard pressed by Agesilaus, succeeded in cutting their way through, though with heavy loss.

After the recovery of the Cadmea the Sacred Band was formed, a military brotherhood of 300 chosen

¹ Thucydides, vii. 43.

Thebans, quartered there and maintained at the public expense, that they might devote themselves to military exercises. In 375 B.C. Pelopidas at the head of this band encountered two Lacedæmonian battalions, as he was marching along the shore of the Copais Lake. Forming his men in column, he boldly charged them, though they were three times his own number, and not content with breaking through, he completely routed them.

Epaminondas, then, had troops on whom he could rely, and who were accustomed to fight in deep formation, when he persuaded his colleagues to risk a pitched battle in the open field near Leuctra (371 B.C.) He had only 6000 hoplites, Cleombrotus had 10,000, but only 4000 were Lacedæmonians. Of these, the Spartans, who had been one-half at Platæa, were now little more than one-sixth. But if the Theban column was no novelty, Epaminondas used it in a way that was new. Hitherto battle after battle had followed the same course: each side successful on the right wing, each side defeated on the left. In the final collision between the two victorious wings the better discipline of the Lacedæmonians had always prevailed. To obtain something more than a local and temporary success, Epaminondas determined to direct his column, while it was fresh and in good order, against the best troops of the enemy. These were always on the right, or near it, and were in this case drawn up twelve deep.¹ So he placed the Theban column on the left of his line, and he gave it a depth of fifty ranks. But this massing of troops on the left weakened the centre and right, especially as he was largely outnumbered. To postpone collision with the enemy on that side, he adopted an echelon formation, an "oblique phalanx," introducing for the first time the distinction of an offensive and a defensive

¹ *Hellenica*, vi. 4, 12.

wing. Vegetius compares this order of battle to a builder's level, or in other words to a right-angled triangle of which one side would be in the original alignment.¹

Such dispositions would be of no avail unless they took the enemy by surprise. Accordingly Epaminondas began the battle by a cavalry engagement, not as usual upon the wings, but in the space between the two armies. The Lacedæmonian cavalry, according to Xenophon, had never been in worse condition. They were soon driven in upon the infantry of the centre, causing some confusion; and before the mischief was repaired the Theban column was at hand. It struck, not upon the extreme right of the enemy, but upon the junction of right and centre, that is to say, the left of the Lacedæmonian corps.

This necessarily exposed the column to attack on its outer flank while checked in front, as the Imperial Guard was attacked by the Fifty-Second at Waterloo. The Spartan king, Cleombrotus, attempted such a movement, but Epaminondas had provided against it by detaching the Sacred Band under Pelopidas. These picked troops fell upon the Lacedæmonians while they were wheeling, and the Theban column, pressing on unhindered, broke through and separated them from their allies, who were ready enough to leave the field. One-fourth of the Lacedæmonians and more than half of the Spartans fell.

The victory gave the Thebans a primacy which lasted only up to the death of Epaminondas at Mantinea (362 B.C.). In that battle nearly all the Greek peoples had a share. Athenians and Lacedæmonians fought side by side, but the Thebans with their allies outnumbered them. Epaminondas' tactics were in the main the same as at Leuctra, but this time he surprised the enemy by

¹ Vegetius, iii. 20.

leading them to believe that he had no intention of fighting that day. Under cover of a hill he drew files from his wings and moved them to the front to form his "ram." Then he led his army forward, using his cavalry and light troops to occupy the attention of the Athenians who were on the left, and prevent their sending assistance to the Lacedæmonians on the right. He reserved a body of horse and foot intermixed to cover the left flanks of his column.

The charge of that column is likened by Xenophon to the impact of a trireme end-on.¹ Where it struck the enemy's line it shattered it, as at Leuctra, and their whole army took to flight. But Epaminondas' death in the moment of victory paralysed his troops, and the battle was practically a drawn one. It is doubtful whether Xenophon's metaphor is to be taken to imply that the head of the column was wedge-shaped, like the beak of a ship. We know that later, among the Romans, there was a formation known as *cuneus* or *caput porcinum* which was really wedge-shaped,² although the word *cuneus* was also constantly used for troops in mass irrespective of shape. "Column" in its military sense is a modern term, but it seems safe to say that it was a column rather than a wedge that won the victories of Leuctra and Mantinea.

Philip of Macedon spent some years in Thebes while Epaminondas lived, and afterwards turned to account not only the lesson of those victories, but the improvements in the military art which more than half a century of war had developed in Greece. The Macedonian tribes, when they had been welded into a nation,

¹ *Hellenica*, vii. 5, 23.

² e.g. *Ælian*, cap. 47. Something of the kind was observed among the Arabs in their attack upon the British square at Abuklea. See Wilson, *From Korti to Khartum*, p. 27.

furnished him an abundance of hardy and docile recruits, as Russia did to Peter the Great. His wars with his immediate neighbours gave his troops field training, enlarged his territories and his recruiting ground, and enriched him with gold and silver mines. His wealth enabled him to maintain a standing force. The world was familiar with armies that were national but not standing, such as the Greek burgher levies, and with armies that were standing but not national, such as the mercenaries in Persian or Carthaginian service; but a national standing army, a professional army with a national spirit, was something new.¹

His standing force of infantry, known as *Hypaspists*, corresponded to the medium infantry of Iphicrates, but had short spears which allowed of greater activity. They numbered perhaps 6000 men (six battalions) in time of war. For "shot," to use the old expression, he had Macedonian bowmen and Thracian javelin-men. His heavy infantry of the line was furnished by a general levy of freemen not of noble birth, organised in six territorial brigades of 3000 to 4000 men. It was a provincial militia called out for war and bound to serve for a fixed time. This was the famous Macedonian phalanx. The normal depth of formation was sixteen ranks, and the units were the file of sixteen men, the section of four files, the company of sixteen files, and the battalion (*chiliarchia*) of sixty-four files. If the numbers fell short, the depth was reduced to perhaps twelve men in a file.

The Macedonian hoplite wore a leather jacket with metal plates, light greaves, and a round hat. He had a short sword and a small shield, but a very long spear (*sarissa*). According to Polybius, the length was 14

¹ Hogarth, p. 51.

cubits (21 feet), of which 10 cubits were to the front and 4 to the rear of the hoplite when the spear was levelled.¹ Hence five rows of spear-points would show beyond the front of the phalanx. The eleven hinder ranks held their sarissæ inclined upwards over the shoulders of the men in front of them, to intercept missiles. They added weight to the charge, and made it impossible for the front ranks to face about.

The cavalry was of two kinds, heavy and light. The former was recruited from the Macedonian nobility, and seems to have formed fifteen territorial squadrons of about 200 men, in addition to the royal squadron or horseguards, made up of youths who had served as pages at court. The *sarissophori* or lancers, perhaps 1000 strong, were armed with a light sarissa longer than the spear of the heavy cavalry.

The battle of Chæronea (338 B.C.) crowned the work of twenty years by which Philip had been gradually securing for himself the headship of Greece. His task was made easier by the decline of Sparta, the jealousies of the leading states, and the growing distaste of the Athenians for personal military service. At Chæronea he had only to deal with Theban and Athenian troops. We know little of the details of the battle. The numbers on each side were about equal—over 30,000 men—and the fighting was prolonged;² but it is said that Philip purposely delayed the issue, as he knew that his troops had more staying power than the impetuous Athenians. It was on the left,

¹ Polybius, xviii. 29, 30. He says that originally the length was 16 cubits. So also Ælian (cap. xiv.) and Polyænus (II. xxix. 2). It has been urged by Rüstow and Köchly (p. 238) that such spears would be quite unmanageable, and that we should read feet for cubits; but there are said to be lances of German *landesknechts* which have shafts 24 feet long (Demmin, *Arms and Armour*, p. 416).

² Frontinus, II. i. 9.

where Alexander commanded against the Thebans, that victory first declared itself, and the vigorous use of the cavalry in pursuit marked a new departure in Greek warfare. The Theban Sacred Band was cut to pieces.

Some years before, Demosthenes had told the Athenians that Philip made war in a different manner from their old enemies; he was regardless of seasons, and he fought with light troops. Probably he referred to the Hypaspists among others. "It is altogether a mistake to say, as is so often done, that the phalanx formed the kernel of the Macedonian army. It was the bulk of the army, but not its kernel."¹ It was the *pièce de résistance*. Alexander, when he invaded Asia, followed the example of Epaminondas, dividing his army into an offensive and a defensive wing, and making his advance in echelon. But the two wings, instead of differing in depth, differed in composition. The offensive wing consisted of light infantry (chiefly Thracian), the Hypaspists, and the Macedonian cavalry, supported by some brigades of the phalanx. The greater part of the phalanx formed the defensive wing, which was covered on its outer flank by Thessalian and other Greek cavalry. He had 5000 horse to 30,000 foot.

Alexander had to do with an enemy vastly superior in numbers, but inferior in quality and in manœuvring powers. This determined him to deliver his attack on one wing, that he might not be enveloped. Alike at the Granicus, at Issus, and at Arbela, he struck with his right. At Issus the supporting brigades of the phalanx had a severe struggle with the Greek mercenaries in Persian pay until the Hypaspists and cavalry, having routed the Persian left, took the mercenaries in flank. At Arbela the defensive wing was so hardly pressed by Indian and Persian cavalry that Parmenio had to send to Alexander

¹ Rüstow and Köchly, p. 268.

for help. In the battle on the Hydaspes against Porus the left of the enemy was again selected for attack; Hypaspists and light troops seem to have been the only infantry engaged. When Alexander reorganised his army after his return from India, he proposed to use Orientals for the phalanx to the extent of three-fourths. Only the three leading men and the last man of each file were to be Macedonians; the rest were armed with bows and javelins.

In the wars of Alexander's successors armies were more alike in numbers and quality, and mobility lost some of its importance. But the increasing use of elephants went along with a deterioration of infantry. Posted at intervals of 50 yards or so along the whole front of each army with shot between them, they made any general advance and engagement of the foot difficult. Practically the fighting was done by the cavalry on the wings, and the infantry of the line only served to fill the space between them. What had hitherto been the best elements of the infantry were attracted to the cavalry, and their places were taken by mercenaries or subject races.

In Europe this was not the case to the same extent as in Asia. Value continued to be attached in Greece to heavy infantry, but it was concentrated upon the phalanx. "What had formed in the time of Philip and Alexander merely a solid base for the free activity of the other kinds of foot, now came to be regarded as the instrument for deciding the issue, and obtaining the victory."¹ Men tried in vain to make it flexible and mobile without forfeiting its own special characteristic, impenetrability. The impossibility of this was shown at Cynos-cephalæ (197 B.C.) and Pydna (168 B.C.) when the Macedonian phalanx was worsted by the Roman legions; but these actions may be better dealt with as incidents of Roman history.

¹ Rüstow, i. 22.

II

THE ROMANS

ONE result of the battle of Pydna was that a number of leading members of the Achæan league were exiled to Italy, on a charge of hostility to Rome. Among these was Polybius, to whom we owe the best account of the Roman army. He was tutor of the younger Scipio Africanus, and was afterwards with him at the destruction of Carthage. He set himself to write the history of the half-century in the course of which "almost the whole inhabited world" had been brought under the dominion of Rome, and he talked with men who had fought against Hannibal.

When Polybius describes the army which conquered Carthage and Greece we are on firm ground. How it came to be what it was is a more obscure matter, but one which cannot be altogether passed over. There is a significant contrast between Athenian and Roman names, between Themistocles or Pericles and C. Julius Cæsar or M. Tullius Cicero. At Athens personality was developed; at Rome the individual was one of a clan and existed for the State. The son was bound to reverence the father, the citizen to reverence the ruler, and all to reverence the gods. Religion was of a practical kind, an affair of ritual, the due discharge of which would bring its reward to the community. It supplemented police regulations, and powerfully reinforced the claims of the State on the individual.

These features were not peculiar to Rome; they were common to the Latin peoples of Central Italy. But Rome enjoyed special advantages which helped to give her predominance. Planted on hills on the northern border of Latium and on the banks of the Tiber, she became both a frontier fortress and a centre for trade. The unhealthiness of the Campagna may have tended also to increase her population, by drawing to the city farmers who would otherwise have lived on their land.¹ Owing to some such causes Rome grew, and the Romans got the better of neighbours of the same sturdy stock as themselves. But to maintain and extend their authority all their energies had to be bent towards military efficiency. Only on one point did they sacrifice it: they changed their commanders frequently, and substituted untried for tried men, lest the too successful leader should become a danger to the State. Their native sense of law and order gave stability to their institutions, and laid a firm foundation for their future empire, a foundation which grew broader with each successive conquest.

A normal Latin township was reckoned to consist of ten wards (*curiæ*), each comprising ten families (*gentes*) or one hundred households. Each household had to furnish one foot soldier (*miles*, one of a thousand), and each family one horseman (*eques*). But in the earliest days the three tribes of Rome yielded a levy (*legio*) of three times that strength, 3000 foot and 300 horse.² Before long the one legion was increased to four. The reforms which bear the name of Servius extended the duty of military service, and its privileges, from the original burgher families to later comers. A property classification was introduced: the first three classes formed the heavy

¹ Mommsen, vol. i. p. 49.

² *Ib.*, p. 72.

infantry, but only the first class was bound to be fully equipped with arms and armour. It furnished the front ranks of the legions, which were drawn up for battle six deep in continuous line, like the Greek phalanx. The fourth and fifth classes served as light troops (*rorarii*), armed with slings and darts. Men were liable to military service from seventeen to sixty years of age, but the seniors (those over forty-six) were reserved as a rule for garrison duty. The liability of the juniors was discharged by sixteen campaigns on foot or ten on horseback. The cavalry, which was held in high estimation, was increased to 1800, or 15 per cent. of the heavy infantry. The poorest class (*proletarii*) was exempt from taxation, and from military service, except in great emergencies, when they were equipped at the cost of the State. Carpenters, smiths, and musicians were attached to the legions, and also a certain number of light-armed substitutes to take the place of disabled legionaries.

It is supposed to have been during the Samnite wars that the Romans made a fundamental change in their tactical formation. The extended line was ill adapted to mountain warfare. The disaster of the Caudine forks (321 B.C.) was the result of an attempt to march a Roman army through the Southern Apennines into Apulia. It found itself caught in a trap, with defiles which it could not force before and behind it. Whether as a result of this disaster or not, continuous lines were given up, and the legion was subdivided into thirty *maniples* which were placed chequerwise in three lines (*hastati*, *principes*, *triarii*) so that the maniples of the second line were opposite intervals in the first line. It was a handy flexible formation which adapted itself readily to broken ground, and afforded strong reserves. It was in fact something

like that which Xenophon's Greeks had to improvise in forcing their way through the mountains of Kurdistan.

The maniples of the first two lines were normally 120 strong, those of the third line 60. The men seem to have been drawn up six deep, as before; but after a time light troops, better armed and organised than before, and re-named *velites*, were incorporated in the maniples, and formed a seventh and eighth rank when not detached. They numbered 1200.¹

The *triarii* were the oldest soldiers. They were sometimes called *pilani*, and the others *antepilani*, and these names seem to be survivals from the earlier phalanx formation, when the front ranks had spears and the men behind threw javelins. The best men, the *principes*, would then form the two front ranks.² But when the manipular organisation was introduced the youngest men were sent to the front, and while they retained the name *hastati* they were armed with the *pilum*. The *principes* became the supporting line, and were similarly armed. The veterans now became a reserve, and exchanged the *pilum* for the spear.

The primary weapon of the Roman soldier was the sword. Polybius says that the Romans surpassed all other people in their readiness to adopt foreign fashions when they were better than their own; they had borrowed their sword from Spain. It was a straight, two-edged weapon, 2 feet or less in length. It had a very sharp point, and was used for thrusting rather than cutting. It hung on the right side, and there was a dagger on the left. The shield, said to have been borrowed from the Samnites, was rectangular, 4 feet long and 2½ feet wide, curved in its width. It was of wood, covered with canvas and hide, bound and bossed with iron.

¹ Marquardt, p. 40, &c.

² *Ib.*, p. 13.

The *pilum*, a javelin nearly 7 feet long, was given to the men of the two front lines to enable them to close with adversaries armed with long spears, especially the Macedonian sarissa. According to Polybius,¹ each man had two, a heavy pilum with a shaft 3 inches thick, and a lighter one like an ordinary hunting-spear. The latter became afterwards the only pattern.² The head was barbed, and various methods were adopted to secure it to the shaft, and to prevent the enemy from throwing the javelin back, or disengaging it from his shield. Thrown by hand at 30 paces, it would go through an inch of fir or half an inch of oak. By the use of a leather thong (*amentum*) the range could be doubled.

The legionaries had brass helmets, with lofty plumes to add to their height and "strike terror into the enemy," leather corslets with iron rings forming a sort of chain mail, or in default of these, metal breast-pieces, 9 inches square, and greaves or leggings. The light troops had round bucklers and leather head-pieces. They were armed with a sword and several darts, which were about half the length of the pilum. From the time of the long siege of Veii (406 B.C.) it had become the practice to give pay for military service, and this made it possible to exact something like uniformity of equipment. The horse soldier received three times as much as the foot soldier.³

To allow the foot soldier to use his weapons freely 6 feet of front was given to each file; so that a manipule occupied 40 yards, and a legion half a mile, of front. Two legions with a corresponding force of allies made up a consular army. The two Roman legions formed the centre of the line, and the allies the wings. In cavalry the proportions were unequal. There were 300 horse to each Roman legion, and 600 to each legion of the allies; in

¹ Book vi. 22.

² Marquardt, p. 31.

³ Polybius, vi. 39.

addition to which the allies also furnished *extraordinarii*, picked troops (both horse and foot) for special use. The strength of a consular army, therefore, was nearly 19,000 foot and 2400 horse.

Six military tribunes were appointed for each legion. They superintended the enrolment of it, and commanded it in turn. The men of the legion then elected sixty centurions, two for each manipule, and the centurions chose lieutenants to assist them. The latter were posted on the right and left of the rear rank, the centurions on the right and left of the front rank.

The Romans had an uniform pattern of camp which Polybius describes. He remarks that the Greeks disliked the toil of digging, and thought no defences so good as those afforded by nature; so they took pains to choose a site of great natural strength, and varied the arrangements of their camp to suit it. But the Romans preferred to expend great labour in intrenching that they might secure a plan of encampment which should be convenient and familiar to all.¹

In 280 B.C. Pyrrhus came to Italy, invited by the Tarentines to help them against Rome, and the first collision between Greeks and Romans took place at Heraclea. It was ten years after the close of the last Samnite war, and in the interval the Romans had been fighting successfully against Etruscans and Cisalpine Gauls, so that "they came to the contest like trained and experienced gladiators."² The battle was an obstinate one, and Pyrrhus owed his victory to his elephants, who scared the Roman horses and drove them back in confusion upon their foot.

Next year he won a second victory at Asculum. The battle was again fought in an open plain, well suited to

¹ Polybius, vi. 42.

² *Ib.*, ii. 20.

his phalanx and his elephants. The latter it was his custom to keep in reserve, to decide the action. He had intermixed bands of Italians (probably Samnites) with the divisions of his phalanx, that he might be able to fight the Romans in their own fashion.¹ In this case, however, the phalanx vindicated itself. The Romans tried in vain to open gaps in the serried lines of pikes, hacking at them with their swords, or seizing them with their hands. At length they gave way, and the elephants coming up put them to the rout. It has been conjectured that it was this experience which led to the adoption of the pilum by the hastati and principes.

Little came of this victory. It cost Pyrrhus many men whom he could not easily replace, while fresh legions were always forthcoming. He took his troops away to Sicily, and it was not till four years afterwards (275 B.C.) that he again tried conclusions with the Romans. At Beneventum the elephants proved, as they were apt to do, a broken reed. At first they drove the Romans back to their camp on one wing, but, wounded by missiles, they turned round and broke through the phalanx, opening a way for the legionaries, who won a complete victory. Pyrrhus retreated to Tarentum, and went back to Epirus.

The further trials of strength between the Greek and Roman infantry took place in Greece three-quarters of a century afterwards. Meanwhile Rome, mistress of Italy, had to deal with her most formidable antagonist, Carthage. Drawn together for a time by common danger from Pyrrhus, the two States soon quarrelled after his departure. "How fair a battlefield we are leaving for the Romans and Carthaginians," he said, as he left Italy. Well matched in strength, the two powers were quite unlike, as unlike as the Swiss to the Venetians. Car-

¹ Polybius, xviii. 28.

thage had a population of nearly three-quarters of a million, and could furnish at need a citizen militia of 40,000 men. But the citizens, essentially traders, had no taste for war. They furnished officers, but the rank and file was made up of subject races or mercenaries. "There were in the army Iberians and Celts, men from Liguria and the Balearic Islands, and a considerable number of half-bred Greeks, mostly deserters and slaves; while the main body consisted of Libyans."¹ Carthage carried on war as a trade, and from her conquests she drew recruits for her army, as well as tribute and products for trade. But Polybius points out how wide is the distinction "between the character of troops composed of a confused mass of uncivilised tribes, and of those which have had the benefit of education, the habits of social life, and the restraints of law."² This is said with immediate reference to a mutiny which broke out among the Carthaginian mercenaries after the close of the first Punic war, and which developed into a ferocious mercenary war lasting more than three years; but it has a wider bearing.

The first Punic war was fought for the mastery of Sicily, and ended in favour of the Romans owing to the astonishing energy and success with which they created a navy, and defeated Carthage on her own element. "The two nations engaged were like well-bred game-cocks that fight to their last gasp,"³ and the peace made after twenty-three years of war was little more than a truce to recover breath. On land Rome met with one disaster, the destruction of the army of Regulus near Tunis (255 B.C.). He had 15,000 foot but only 500 horse, while the Carthaginians mustered 12,000 foot and 4000 horse, with 100 elephants. They had given

¹ Polybius, i. 67.

² *Ib.*, i. 65. Cf. vi. 52.

³ *Ib.*, i. 58.

the command to a Lacedæmonian, Xanthippus, who formed a line of elephants in front of the heavy infantry, and placed the cavalry and light infantry on the wings. Instead of the usual chequerwise order of the legion, Regulus drew up his maniples in deep columns with lanes between them through which the elephants might pass. This so far proved successful that, though many men were trampled down, the columns forced their way through the line of elephants, and reached the Carthaginian phalanx. But there they were checked, and the hinder ranks had to face about to engage the Carthaginian cavalry, which had easily routed the Roman horse and fell on the rear of the legions. Only about 2000 men escaped, and for some years afterwards the Romans took care not to fight battles in the open field where they would have to face an elephant charge.¹

Carthage found in Spain compensation for the loss of Sicily, and it was from Spain that Hannibal set out in 218 B.C. to invade Italy. He passed the Pyrenees with 50,000 foot, 9000 horse, and 37 elephants. The infantry was three-fifths Libyan and two-fifths Spanish, and the cavalry mainly Numidian. This army had shrunk to 20,000 foot and 6000 horse when it reached the valley of the Po;² but he was joined there by some Cisalpine Gauls, and he had also some light-armed troops, Ligurians and Balearic slingers. Altogether he had 38,000 men, of whom one-fourth were mounted, when he encountered a Roman army of about equal strength, but much weaker in cavalry, on the Trebia.

Hannibal was a master of stratagem. By the time the battle began the Romans were chilled by fording the river and faint for want of food, and they had used up many of their javelins in skirmishing with the Numidian

¹ Polybius, i. 39.

² *Ib.*, iii. 35, 56

horse. His own heavy infantry was fresh and well fed. His cavalry on the wings soon routed the Roman cavalry, and fell upon the flanks of their infantry. His light troops and elephants joined in these flank attacks, and an attack was also made on the Roman rear by a force of 1000 horse and 1000 foot which had been placed in ambush. But in spite of all these adverse circumstances the legionaries were so much the better men that 10,000 of them cut their way through the middle of the Carthaginian army, and finding it impossible to regain their own camp, marched in close order to Placentia.

In the following year (217 B.C.) Hannibal surprised a Roman army in the defile of Trasimene. It found itself blocked in front and rear, as in the Caudine valley a century before. Here again 6000 men succeeded in breaking through the troops enveloping them, though they were overtaken and forced to surrender next day. The Libyan infantry was rearmed in the Roman manner from the spoils of this battle.

The moral effect of these victories and confidence in his own skill made Hannibal gladly accept battle against odds of nearly two to one. At Cannæ (216 B.C.) he had 40,000 infantry and 10,000 cavalry. The two consuls opposed to him had eight Roman legions with their quota of allies, numbering 80,000 foot and 6000 horse; but the heavy losses of the two previous years must have told severely on their quality. Each consul commanded in chief on alternate days. Æmilius Paullus, a tried soldier, was resolved to avoid battle in the open plain on account of the enemy's superiority in horse; but Terentius Varro, who was rash and inexperienced, thought otherwise, and played into Hannibal's hands. He left 10,000 men in a camp on the left bank of the Aufidus, took the rest of the army across, and drew it up facing south with its

right resting on the river. Hannibal followed suit, and drew up his army opposite, with Cannæ to his left rear.¹ The Numidian cavalry was on the Carthaginian right, the Spanish and Gallic cavalry on the left. Of the infantry, the Gauls and Spaniards were intermixed in the centre, and the Libyans were to right and left of them. He pushed forward his centre and made his line of battle convex, in order that the Gauls and Spaniards might be first engaged, and the African troops be held in reserve. The Gauls were armed with a broad sword, and used the edge only, not the point. Open order was necessary for them to wield their weapon, and their line was long and thin. The Roman order on the contrary was very deep. The maniples were closer together than usual, and the depth of each maniple was several times greater than its front.² This was probably due to want of space for their large numbers. It seems to imply that their frontage was not more than one-fourth of what was customary, so that the whole of their infantry would not occupy more than two miles.

While the cavalry were engaged with one another on the wings, there was a skirmish of light-armed troops in the centre. When these fell back, the Roman line began to press upon the convex front of the Gauls and Spaniards. It yielded and gradually became concave; the maniples of the Roman centre pushed onward, and those of the wings drew towards the centre, where the stress of the battle lay. It seemed as though the Carthaginian army would be cut in two, as at the Trebia. But the Libyans on the wings were now faced left and right,

¹ On this vexed question I have adopted the view taken by Mr. Strachan-Davidson in his *Selections from Polybius*, which is supported by Sir Edward Fry (*English Historical Review*, October 1897).

² Polybius, iii. 113.

and wound inwards and rearwards as the Gauls and Spaniards fell back,¹ until as pincers they had fairly enclosed the Roman wedge, when they fell with fury upon its flanks.

By this time the Carthaginian cavalry on the left wing had routed the Roman cavalry opposed to it, had joined the Numidians on the right, and defeated the allied cavalry. Leaving the Numidians to pursue, it had then fallen upon the rear of the legions. Surrounded on all sides, the Romans seem to have lost hope. They made no vigorous effort to break through, but were pressed together and gradually cut down. Five-sixths of their whole army perished, while the Carthaginian loss was under 6000. Polybius regards the battle as "a lesson to posterity that in actual war it is better to have half the number of infantry, and the superiority in cavalry, than to engage your enemy with an equality in both," but he recognises elsewhere that it was to the skill and genius of Hannibal that the Romans owed their defeats.²

The Carthaginians would have crucified Varro; the Romans thanked him for not despairing of the Republic; but they took more care in future to secure competent commanders. Their demeanour after so crushing a blow explains better than anything else how they came to conquer the world. Napoleon has endorsed the often expressed opinion that if Hannibal had marched on Rome after Cannæ it would have fallen into his hands. On the other hand, Polybius makes the general reflection that he should have reserved his attack upon the Romans until he had first subdued other parts of the world.³ The two criti-

¹ "Paulatim invicem sinuantibus procedentibusque ad præceptum cornibus, avide insequentem hostem in mediam aciem suam recepit."—Frontinus, II. iii. 7.

² Polybius, iii. 117, xviii. 28.

³ *Ib.*, xi. 19.

cisms may be said to cancel one another. So solidly based a power was not to be overturned at a stroke. It could only be crushed by a well-compacted coalition of the various peoples which it had subdued one by one. For such a coalition Hannibal's small army offered a nucleus. Yet in spite of his brilliant victories, attachment to Rome, or fear of her, prevented any such general adhesion as he hoped for. Capua joined him, but on condition that its citizens should not have to fight for him. Other cities closed their gates, and he had not the means for successful sieges. Carthage, which might have furnished them, sent him mere dribblets, and as his army wasted away, it had to be recruited from the men of Southern Italy.

Polybius was filled with admiration of the skill which enabled Hannibal to maintain himself for sixteen years in Italy, with an army of many races which never showed disaffection, but obeyed him alike in good and bad fortune, and was never beaten in any important action. But he was equally struck with the energy of the Romans, who while they were threatened by their great enemy, carried the war into Spain and Sicily, and finally into Africa. It was to their mixed constitution that he attributed the high spirit and unity of purpose which carried them in this and other cases through disaster to empire: the partition of power between consuls, senate, and people.¹

In 202 B.C. Hannibal was recalled to Africa to defend Carthage, and met with his first defeat at Zama. The Romans had been careful since Cannæ to avoid pitched battles in the open field. Hannibal seems to have had slightly the advantage in numbers, and the difference in quality must have been very marked that led Scipio to refuse the terms he offered. The Romans had secured

¹ Polybius, xi. 19, viii. 3, vi. 18.

Massinissa and his Numidian horsemen as allies, and in cavalry Hannibal was outnumbered by two to one. As usual, the weaker cavalry were soon driven off the field, and the conquerors, after pursuing them for some distance, fell upon the rear of the infantry. That infantry was of three kinds. In first line Hannibal placed 12,000 mercenaries, in second line Libyans and Carthaginians, and behind them again the veterans whom he had brought with him from Italy. In front of all was a line of more than 80 elephants.

To encounter the elephants, Scipio did as Regulus had done; he placed the principes behind the hastati, and the triarii behind the principes, leaving lanes (temporarily occupied by velites) for the elephants to pass through. He also left wide spaces between the lines of maniples. The elephants charged without much effect, and did as much harm to their own side as to the enemy. When they were gone the infantry of the two armies closed. "As the combatants used their swords and not their spears, the superiority was at first on the side of the dexterity and daring of the mercenaries, which enabled them to wound a considerable number of the Romans. The latter, however, trusting to the steadiness of their ranks and the excellence of their arms, still kept gaining ground, their rear ranks keeping close up with them and encouraging them to advance; while the Carthaginians did not keep up with their mercenaries, nor support them, but showed a thoroughly cowardly spirit."¹

There was not much hope for a city whose citizens behaved so badly, even when sandwiched between better troops. At length the mercenaries gave way, and in their retreat killed many of the Carthaginians, who fled along with them. On the approach of this mixed mass,

¹ Polybius, xv. 13.

Hannibal had to order his veterans to lower their spears that their ranks might not be broken through. After an interval came the final struggle between these veterans and Scipio's legions. Principes and triarii were moved up into line with the hastati before the charge was made. "Being nearly equal in numbers, spirit, courage, and arms, the battle was for a long time undecided," but the Roman cavalry with Massinissa's Numidians decided it by attacking Hannibal's troops in rear. The Carthaginian army was destroyed, 20,000 being killed, and nearly as many made prisoners, while the Roman loss was reckoned at 1500.¹

It was by Hannibal's advice that Carthage at once submitted after this defeat; we may be sure, therefore, that she had no alternative. The nation of shopkeepers had not the staying power of the nation of farmers. She was not of one mind: there was a peace party as well as a war party. There was a wide interval between rich and poor, and small love between herself and her subjects. Above all, her citizens had learnt to depend on hiring others to fight for them, instead of fighting for themselves. "I do affirm," says Machiavelli,² "'tis not money (as the common opinion will have it) but good soldiers that is the sinews of war; for money cannot find good soldiers, but good soldiers will be sure to find money." Hannibal's own career shows that this is too absolute; but at all events mercenaries must not be able to despise those who hire them.

The submission of Carthage left the Romans free to turn their attention to Greece. Philip V. of Macedon had made a treaty with Hannibal after Cannæ, and a small contingent of his troops had taken part in the battle of Zama. Rome declared war against him, and at Cynos-

¹ Polybius, xv. 14.

² Discourses on Livy, II. x.

cephalæ (197 B.C.) the legion was again pitted against the phalanx. The battle developed itself accidentally out of an encounter of light troops, and on hilly ground ill suited to the phalanx. Philip had formed only part of his army on the top of the hill, when the approach of the legions, driving his light troops before them, obliged him to attack. Their arms and the depth and closeness of their formation, together with the fall of the ground, gave the Macedonians the advantage in the first onset, and they forced back the Romans in their front. But the Roman right wing, headed by some elephants, pushed up to the top of the hill where the rest of the Macedonians were in the act of forming, and easily dispersed them. A tribune with twenty maniples then fell on the rear of the division which was pressing the Roman left. "The nature of the phalanx is such that the men cannot face round singly and defend themselves: this tribune, therefore, charged them and killed all he could get at; until, being unable to defend themselves, they were forced to throw down their shields and fly; whereupon the Romans in their front, who had begun to yield, faced round again and charged them too."¹

Polybius follows up his account of this battle by a comparison of the Roman and Macedonian modes of fighting. A charge of the phalanx was irresistible so long as it kept its order; for the Romans being at 6 feet, the others at 3 feet intervals, each legionary of the front rank had ten spears to encounter. But the ground must be level and free from obstacles, and even on such ground the order of the phalanx was apt to be broken by success as well as by failure, and it was no longer fit to meet an attack. Besides it must be used as a whole, and was unsuited to the emergencies of war, to seizing points of

¹ Polybius, xviii, 26.

vantage, to haphazard collisions, and to siege warfare. "The Roman order, on the other hand, is flexible: for every Roman, once armed and on the field, is equally well equipped for every plan, time, or appearance of the enemy. He is, moreover, quite ready and needs to make no change, whether he is required to fight in the main body, or in detachment, or in a single maniple, or even by himself."¹

These remarks were borne out by the battle of Pydna (168 B.C.), when Perseus, the son of Philip, met with a crushing defeat from L. Æmilius Paullus. The phalanx, fighting on level ground, bore all before it, and drove the legions back upon a hill near the Roman camp. Here the fortune of the day changed. The ranks of the phalanx had become disordered in the hurry of pursuit; small bodies of the Romans broke in at the gaps, while others attacked it in flanks and rear. In hand-to-hand fighting the Macedonians were at a disadvantage both as to sword and shield, and in the end they were routed.

While Greece and Spain, North Africa and Asia Minor were being gradually brought under Roman rule, the Roman army underwent a change. The small farmers who had been its backbone disappeared from its ranks. War had lessened their numbers and interfered with their work, especially prolonged war in foreign lands. The population of the city increased, food was imported and sold at a low price, money became plentiful, and the small farmers found themselves forced to sell their land to wealthy men who cultivated it by slave labour, or turned it into pasture.

While the middle class was disappearing, the upper class, grown rich and luxurious, disliked military service except in high command. Subject provinces furnished

¹ Polybius, xviii. 32.

special troops: heavy cavalry from Thrace, light cavalry from Africa, light infantry from Liguria and the Balearic Isles; and the poorer townsfolk were ready and eager to serve in the legions. The property qualification had been lowered by the middle of the second century B.C., and by the end of that century it was done away with altogether. When Marius raised an army for the war against Jugurtha, the senate allowed him to accept all free-born citizens who offered themselves. A few years later, Roman citizenship was conferred on all Italians, and the distinction between Romans and allies was no longer maintained in the legions.

This changed the character of the Roman soldiery. The farmer or burgess militiaman had been eager to get back to civil life; the enlisted proletarian depended on his pay, the camp was his home, and he prolonged his service to the utmost. The usual term was twenty-five years, and he was not allowed to marry. As Gibbon put it: "War was gradually improved into an art and degraded into a trade." The soldiers looked to their own general, and based their hopes on him, without concerning themselves much about the Republic.

As the army became more professional, a more thorough drill was introduced, based on the training of gladiators. The organisation of the legion was altered by Marius, or rather the Roman legions were brought into conformity with those of the allies. Instead of thirty maniples, they were made to consist of ten cohorts. The distinction of velites, hastati, principes, and triarii was swept away; henceforward there was only one kind of legionary soldier for all purposes, armed with sword and pilum, and only one standard, the eagle. Cavalry ceased to form part of the legion. The cohorts were disposed in three lines according to the general's discretion. The number of

ranks in a cohort was sometimes increased to ten, and the files were made closer; so that a legion with four cohorts in first line might occupy only a quarter of a mile of front, instead of half a mile. The larger units and the closer formation may have been the result of Marius's experience against the hordes of Cimbri and Teutones, or of the greater numbers which it had become habitual to bring into the field.

Each cohort, being made up of three maniples or six centuries, had six centurions, who might rise to the position of *primipilus*, or first centurion of the legion, but seldom obtained any further promotion. Each cohort had its own ensign, and a silver eagle was given to the legion. On the march the legionary was loaded "like a sumpter mule," with clothing, rations, cooking implements, and intrenching tools. To carry these more conveniently, Marius provided him with a forked pole, which was known as Marius's mule, and is represented on Trajan's column. The soldier had often to carry also three or four stakes, with side shoots that might be intertwined, to form a stout palisade.¹ Yet he was expected to march twenty miles or more in a day.

If the professional soldier of the later days of the Republic was inferior in some respects to the citizen-soldier of earlier times, if he was less patriotic and religious, and looked more to plunder and promotion, he was as enduring and stout-hearted as ever, and he knew his business better. He was incessantly employed either in military exercises or on civil works. Josephus, a century after the downfall of the Republic, was full of admiration of the Roman soldiers that Titus led against Jerusalem. "Neither can any disorder remove them from their usual regularity, nor can fear affright them

¹ Polybius, xviii. 18.

out of it, nor can labour tire them." Body and soul were strengthened by exercises and hardened by fear; for death was the penalty, not only of running away, but of sloth. "When they come to a battle the whole army is but one body, so well coupled together are their ranks, so sudden are their turnings about, so sharp their hearing as to what orders are given them, so quick their sight of the ensigns, and so nimble are their hands when they set to work; whereby it comes to pass that what they do is done quickly, and what they suffer they bear with the greatest patience."¹

Examples of their behaviour under all conditions of warfare are to be found in Cæsar's Commentaries. Their readiness to endure privation was shown at Avaricum (52 B.C.). When Cæsar offered to raise the siege if they found the scarcity of food intolerable, they assured him they would rather bear anything than fail to avenge the slaughter of their fellow-countrymen.² The labours they would undertake were exemplified at Alesia (52 B.C.), where the lines of circumvallation and contravallation were together 25 miles in length, and had to be guarded by 50,000 men against a more numerous enemy within, and a very much larger relieving army outside.³ Even bolder, though less successful, were the lines by which Cæsar invested Pompey's army at Dyrrhachium, shortly before Pharsalia: a chain of twenty-four redoubts with a circuit of 15 miles, to which an outer chain was afterwards added.⁴

Nothing tests troops more than a surprise. Six legions were intrenching their camp on the Sambre (57 B.C.), two others with the baggage train were still on the march in rear, the cavalry and light troops had

¹ *Jewish War*, iii. ch. 5.

² *De bello gallico*, vii. 17.

³ *Ib.*, p. 71, &c.

⁴ *De bello civili*, iii. 44.

been sent over the river and were skirmishing on the fringe of a wood in which the Nervii and their allies, numbering some 60,000, lay concealed. Suddenly the Gauls issued from the wood, forded the Sambre, driving the Roman horse before them, and fell upon the legions at work. "So short was the time allowed us, and so eager for fight was the enemy, that the men not only could not fix their plumes, but could not even put on their helmets and take the covers off their shields. Each man joined the nearest ensign rather than search for his own company when he might be fighting."¹

The two legions in the centre soon repulsed their assailants and followed them to the river. The two on the left did more; they crossed the river in pursuit, and took the enemy's camp. But meanwhile the Nervii, the bravest of the tribesmen, had enveloped the legions on the right (Seventh and Twelfth) and gained possession of the unfinished camp of the Romans. Caesar, on joining his right wing, found the men crowded together and discouraged, with no reserve to help them. He retired them a little and placed them back to back, to show a double front to the enemy. The two legions that formed the rearguard hurried up, and the Tenth legion (one of those which had taken the enemy's camp) was sent back to give assistance. The cavalry rallied, and at length by united efforts the Nervii were overpowered and cut to pieces, after fighting obstinately behind a rampart of dead bodies.

Sometimes Caesar had to check the ardour of his men, sometimes to reprove their rashness, greed for booty, and disregard of orders.² Occasionally, as at Dyrrhachium, they gave way to panic which even he was unable to overcome, or broke out into mutiny (*e.g.* the legions in

¹ *Bel. gal.*, ii. 16-28.

² *Ib.*, vii. 19, 52.

Campania, when ordered to Africa). But on the whole, as Mommsen says, "perhaps there never was an army which was more perfectly what an army ought to be."¹

Its quality was shown at Pharsalia (48 B.C.), where it encountered an army of more than twice its numbers, trained in the same fashion, and commanded by a general whom some people are disposed to rank even higher than Cæsar. Pompey had 7000 horsemen, Cæsar only 1000; but the latter intermixed infantry with his cavalry, and formed a corps of six cohorts to support them. These cohorts, using their pila as spears, charged Pompey's cavalry as it was preparing to fall upon the flank of the legions, and drove it off the field. Then they wheeled round the enemy's left, and assisted Cæsar's front attack by an attack in rear.

Pompey, distrusting his infantry, kept them halted, that they might be fresh and in good order when Cæsar's men arrived fatigued and out of breath. But, as Cæsar says, "there is a certain alacrity and ardour of mind planted by nature in every man which is inflamed by the desire of fighting, and which commanders ought not to repress, but to excite. Nor was it idly laid down of old that the trumpets should sound, and the whole army raise a shout, whereby, as they reckoned, the enemy would be struck with terror and our own men encouraged."² He had the advantage of this stimulus without disordering his troops, for they were well enough in hand to halt and recover breath before closing. The Pompeian legions, assailed on both sides, held their ground for a time, but at length fled to their camp. The battle had lasted till noon and the weather was extremely hot, yet Cæsar persuaded his troops to storm the camp, and to pursue the enemy for several miles,

¹ Mommsen, iv. 366.

² *Bel. civ.*, iii. 92.

twice intrenching themselves in the course of their advance.

The reduction of the legionaries to a single type, a "handy man" fit for any job, even to attack cavalry, was not without its drawbacks. The auxiliaries on whom dependence was placed for cavalry and light troops often failed, and the legionary had to deal with a more mobile enemy whom he could not bring to close combat. In his second invasion of Britain Cæsar found this the case, and shortly afterwards the troops under Sabinus and Cotta were destroyed on the march by the desultory tactics of Ambiorix,¹ as the legions of Varus were afterwards destroyed by Arminius. In the African war (46 B.C.) Cæsar found himself enveloped in an open plain near Ruspina by a great force of cavalry and light troops, chiefly Numidian. He had 30 cohorts, but only 400 horsemen and 150 archers. The enemy closed in and threw darts into the cohorts. When the latter charged, the horsemen retired, and waited for their opportunity when the ranks should be broken in pursuit or in combat with the light troops. Cæsar had to check the sallies of his men, and they were gradually pressed together into a circle; a good target for missiles. Cæsar saw that he must break the enemy's ring surrounding him; so he drew his troops out in as long a line as he could, made alternate cohorts face about, burst the ring with his flank cohorts, and then charged the two halves of it. He was then able to make good his retreat to his camp.²

The army of Crassus, attacked in similar fashion by the Parthians near Carrhæ (53 B.C.), was not so fortunate. It consisted of seven legions with 4000 cavalry and 4000 slingers and archers. It was in the open desert between

¹ *Bel. gal.*, v. 16, 35. ² *Bellum Africae*, pp. 14-17. Cf. Stoffel, ii. 287.

the Euphrates and Tigris, when it found itself unexpectedly in presence of the Parthian army, which consisted wholly of mounted archers and lancers. The legions were formed into a square, and the archers were sent forward; but they were soon overpowered, not only by numbers, but by the greater range of the Parthian bow. P. Crassus with a select corps of 6000 horse and foot charged the enemy as they were closing round the square. The Parthians fled before him, and when his ardour had carried him far from the main body, they turned upon his corps, surrounded it and destroyed it. Then going back to the square, they poured arrows into it for the rest of the day. At night they left it, and the remains of the Roman army escaped to Carrhæ, where there was a Roman garrison. Further losses were incurred in continuing the retreat from Carrhæ, and only one-fourth of the army reached Syria.¹

The professional army initiated by Marius extended the Roman dominion to the Rhine and the Euphrates, but it inflicted on the commonwealth two generations of civil war. It was an instrument in the hands of ambitious leaders who took sides for or against class privilege. The soldiers were no longer the soldiers of the Republic, but the soldiers of Sylla or Marius, Pompey or Cæsar. The establishment of the empire brought about a change in this respect. Following the example of Julius, Augustus took the title of Emperor, and the army had henceforward a permanent commander-in-chief to whom it swore obedience. He appointed permanent chiefs, his legates, to the several legions, instead of letting the command fall to the military tribunes in rotation.

The aim of Augustus was to consolidate, not to enlarge,

¹ Mommsen, iv. 331.

the empire; and though some annexations were found necessary to obtain a scientific frontier, the army became a means of defence rather than a means of conquest. It became a standing army, for it had to meet an ever-present danger from the peoples beyond the frontier. The legions had grown numerous during the civil wars; they were reduced to twenty-five, and were practically localised. Under Tiberius there were eight on the Rhine, six in the countries south of the Danube, four in Syria, four in Africa, and three in Spain. To make them fit to act separately, 120 horsemen were added to each legion.¹

Auxiliary troops raised in the provinces were attached to the legions and were commanded by their legates. They were cohorts of 500 or 1000 men, some wholly of foot, others including horsemen to the extent of one-fourth. Some were armed according to the custom of their country with bows, slings, &c.; others were equipped and trained in the Roman manner. There were also bodies of horsemen of about the same strength as the cohorts.

In the armies of the Republic there had been a body-guard for the commander-in-chief which was styled the prætorian cohort. This corps was raised to nine cohorts by Augustus, and did guard duty in Rome, and at the imperial residences elsewhere. It comprised horse and foot, grew by degrees to 50,000 men, and played a prominent part in the making and unmaking of emperors till it was abolished by Constantine.

Under the system adopted by Augustus and his successors, the empire "presented to its foes a hard shell and a soft kernel."² There were no reserves of troops in the interior, and when legions were drawn from the

¹ Marquardt, p. 163.

² Oman, p. 6.

frontier to support rival claimants to the imperial title, the outer barbarians broke through the shell. The Goths crossed the Danube, stormed Philippopolis, and destroyed the emperor Decius and his army (A.D. 251). A few years afterwards another emperor, Valerian, had to surrender to the Persians, who overran Syria and stormed Antioch.

When order was restored by Diocletian at the end of the century, new corps were formed to serve as an imperial field force. The legions of these *Palatini* and *Comitatenses* numbered only 1000 men, and comprised both horse and foot. They had auxiliary cohorts attached to them, and themselves contained a large barbarian element which increased as time went on. They were moved from one region to another as occasion arose. The older legions, left as garrison troops on the frontiers, gradually became bodies of military colonists rather than soldiers. Service in them was unpopular, for the work was hard, discipline severe, and rewards tardy.¹ The cavalry was again withdrawn from them and separately organised. From one-tenth it rose to about one-third of the infantry. The strength of the frontier army is reckoned at 360,000 by Mommsen, and the field force, or emperor's army, at something under 200,000, making a total of more than half a million of men, of whom nearly 160,000 were mounted.

The provinces were crushed under the burden of such a provision for defence, aggravated as it was by lavish expenditure on public works and public sports. Hope, energy, courage, and enterprise died out, and the people looked to Cæsar for everything. The increase of cavalry was partly to make up for the deterioration of the infantry, partly to meet the swarms of barbarian horsemen,

¹ Vegetius, ii. 3.

but it did not always serve its purpose. At Adrianople (378 A.D.) the emperor Valens met the fate of Decius, and his army was cut to pieces by the Goths. His successor, Theodosius, adopted the dangerous expedient of enlisting the Gothic horsemen, not as individual recruits, but as bands under their own chiefs, and with their help he subdued the Gallic legions which had rebelled against him.

The Goths themselves were worsted by Belisarius a century and a half afterwards, but he attributed his success to his mounted archers, borrowed from Asiatic warfare. Procopius has described these troops: "They come to the fight cuirassed and greaved to the knee. They bear bow and sword, and for the most part a lance also, and a little shield slung on the left shoulder, worked with a strap, not a handle. They are splendid riders, can shoot while galloping at full speed and keep up the arrow flight with equal ease whether they are advancing or retreating. They draw the bow-cord not to the breast, but to the face or even to the right ear, so that the missile flies so strongly as always to inflict a deadly wound, piercing both the shield and cuirass with ease."¹

The bow was also becoming more and more the weapon of the foot soldier, and found its way into the ranks of the legion. A fragment of Arrian, who was governor of Cappadocia in the time of Hadrian, shows how he proposed to draw up his troops to meet a Scythian enemy. His two legions were to be formed eight deep, the four front ranks armed with the pilum, the others with spears. Behind them there was to be a rank of foot archers, and in rear of these the horse archers, who were to shoot over their heads. There were to be bodies of light troops (Armenian archers, &c.) on each wing, with

¹ Oman, p. 25.

heavy infantry in front of them. The cavalry which was armed with lance and sword was to be in rear, prepared to meet flank attacks. The enemy's charge was to be met with a general volley of arrows, darts, and stones. If it was nevertheless pushed home, the second and third ranks must close up, and with the first rank must present the points of their *pila* to the horses, while those behind them threw their weapons.¹

With this we may compare the rules given by Vegetius² three centuries afterwards for the drawing up of infantry. It is true that he habitually "mixes up and confuses the rules and habits of his own and of earlier times" (Lipsius), but in this case he had evidently the warfare of his own day in view. The men were to be formed in six ranks. The two front ranks should be armed and armoured for hand-to-hand fighting, but the men of the second rank should also have bows. Light-armed men with bows, darts, &c., formed the third and fourth ranks, and slingers the fifth; while the sixth, like the *triarii* of old, was to consist of the most trusty and best-equipped men, as a reserve. The light-armed troops should run out and engage the enemy, but if they failed to drive him back they should take shelter behind the front ranks, whose duty it was to stand immovable as a wall.

Such a formation would hardly resist a very serious shock. A happier combination was tried by Narses at *Taginæ* (552 A.D.). He dismounted his heavy cavalry—Lombards, Heruli, &c.—and placed them in the centre of his line, between wings of foot archers wheeled up to cross fire in their front. Repeated charges of the Gothic horsemen were repulsed, and when at length they gave way, the Roman cavalry, which had been held in reserve, completed the victory.³ This was an anticipation of the

¹ Guischartt, ii. 152, &c.

² Vegetius, iii. 14.

³ Oman, p. 34.

English tactics of the fourteenth century, but it stands alone. Infantry continued to decline in general estimation, and came to be regarded as only fit for mountain warfare or garrison duty.

Vegetius¹ complained that the armour which had been cheerfully borne in earlier times was discarded in his day. It was probably found to give only partial protection from missiles, and to be seldom needed for anything else; but its discontinuance became a reason for avoiding hand-to-hand combat.

¹ Book i. 20.

III

THE MIDDLE AGES

WHILE the Goths, Lombards, and other races which had settled in the plains of Eastern Europe became nations of horsemen, the races which occupied North Germany and Scandinavia were accustomed to fight on foot. Tacitus says that the chief strength of the Germans was in their infantry; their cavalry was not well mounted, and had no skill in evolutions.¹ It was the same with the Franks. As described by Agathias in the sixth century, "they wear neither mail-shirt nor greaves, and their legs are only protected by strips of linen or leather. They have hardly any horsemen, but their foot soldiery are bold and well practised in war. They bear swords and shields, but never use the sling or bow. Their missiles are axes and barbed javelins."² The *francisca* was their special weapon, as the *seax* or short sword was the weapon of the Saxons. It was a single-bladed axe with a curved edge, which could be either thrown or wielded, like a tomahawk.

Theodebert, the grandson of Clovis, invaded Italy with an army of 100,000 men in 539 A.D., when Belisarius was at war with the Goths. Both sides made overtures to the king of the Franks, but he fell upon both and scattered them. Fifteen years afterwards the Franks again descended into Italy, but Narses obtained a complete victory over them at Casilinum by means of his

¹ *Germania*, p. 6.

² *Oman*, p. 52.

mounted archers. Formed in a dense mass, checked in front, and threatened on both flanks, they were a helpless target for arrows for some hours, but at length broke and were cut to pieces. They fared better at the battle of Poitiers (732 A.D.). They stubbornly resisted, "as if they were frozen to the ground," all the assaults of the Moorish cavalry, and turned back the tide of Saracen invasion.

But in two or three centuries this sturdy infantry had become a thing of the past. Mounted men-at-arms were the only soldiers of any account in France; and it was nearly a thousand years before French infantry recovered their reputation. General Susane begins his history of it by remarking that infantry always shares the lot of the mass of the population. When men are slumbering, careless or brutalised, under the weight of their chains, it is abject and despised; and it only shows what it is capable of when privilege and inequality have been displaced by a social system which pays more respect to the dignity of man. Whether or not this is true as an universal proposition, it is certainly true of French infantry. It declined with the growth of the feudal system, and was at its best after the Revolution.

The germ of feudalism is to be seen in Tacitus's description of the German tribes, though the fruit was slow in forming: "It is the renown and glory of a chief to be distinguished for the number and valour of his followers. . . . To defend, to protect him, to ascribe one's own brave deeds to his renown, is the height of loyalty. The chief fights for victory; his vassals fight for their chief . . . men look to the liberality of their chief for their war-horse and their blood-stained and victorious lance. Feasts and entertainments, which, though inelegant, are plentifully furnished, are their only pay. The means of

this bounty come from war and rapine. . . . It is a duty among them to adopt the feuds as well as the friendships of a father or a kinsman."¹

Bands held together by ties of this kind might coalesce for a time into an army, but they fought for personal not for national objects. Their chiefs claimed the right of private war, and courts of justice were merely courts of conciliation whose awards were not binding. In the rudest times there was little difference of equipment between one man and another, but the conquest of the Roman provinces put wealth and technical skill at their disposal, and the art of the armourer fostered inequality. The weight of armour tempted men to ride, and rapidity of movement was important for the forays and skirmishes of which private war mainly consisted. Hence the chief and his chosen followers became mounted men-at-arms. Those who had neither horses nor armour fought at great disadvantage and were held in contempt. The very name "infantry" is significant. It dates from a time when those who went afoot were the lads in attendance on armoured horse soldiers for whom the term *miles* came to be reserved.

Charlemagne resisted this tendency. While exacting due service from his vassals, and doing his best to secure a large and well-armed force of cavalry, he insisted on the old principle of the "ban," that every freeman was bound to serve at the king's summons. In order to obtain a well-equipped infantry militia instead of a mere horde of peasants, such as would be yielded by a levy *en masse*, he provided that the smaller owners should be grouped, and that one of them should go as the representative of the group, armed at their joint cost. But under his successors this militia fell into disuse.

¹ *Germania*, pp. 13, &c.

Something more mobile and efficient was required to meet sudden descents of the Danes upon the coasts, which formed the chief danger to the peace of the kingdom. In 866 A.D. Charles the Bald issued an edict that all freeholders who had or might have horses should join the host mounted, but by the end of the tenth century it had become exclusively a feudal host, made up of the contingents of lords who had received grants of land as fiefs or benefices, and were under contract to bring their quota of mounted men into the field.

Fiefs and offices (dukes, counts, &c.) which were at first revocable or for life only, became hereditary, and the inroads of the Northmen gave the holders of them an opportunity to build strongholds in which they could defy the king himself. Civil wars among the Carolingian princes weakened their authority, and enabled some of their vassals to become stronger and more independent. In the general struggle for existence the weaker lords sought safety by "commending themselves" to the stronger lords, surrendering their lands, and receiving them back as fiefs. The freemen of the conquered (Gallo-Roman) race fared worse. Some of them were allowed to continue to hold land subject to a quit-rent, but the bulk of them became serfs. After a time there was no land without its lord, and the lords took care not to give arms or training to an alien and oppressed peasantry. Froissart's description of the Jacquerie¹ shows how the peasants, unarmed as they were except with knives and staves, would now and then rise, and revenge themselves on their lords by fearful outrages.

Besides the valets of the men-at-arms, foot archers and crossbowmen were required, especially for garrisons and sieges. These were mostly mercenaries drawn from

various quarters, and the term *solidarii* (soldiers) came into use for hired men early in the eleventh century.¹ The army of adventurers with which William of Normandy invaded England comprised not only bowmen, but some mail-clad infantry armed with spears and swords. The Crusader armies also were largely composed of foot, and they had the more need for missile weapons as they had to deal with an enemy skilled in the use of the bow. The earlier Crusaders suffered much from their inferiority in this respect. In 1104 A.D. they met with a disaster on the very ground, near Carrhæ, where the Parthians had routed Crassus's legions.²

The victories of Cœur de Lion were due to skilful co-operation of heavy cavalry and crossbowmen, whose bolts were further ranging and more deadly than the Turkish arrows.³ So deadly were they that in 1139 A.D. the second Lateran Council condemned the use of the crossbow, except against infidels; but it spread nevertheless, especially in France, Italy, and Germany. Borrowed from the balista, it seems to have been made available as a hand weapon only about the beginning of the eleventh century.

About this time a burgher militia began to grow up in the French towns. They obtained charters, either by purchase from their lords, who were in want of money for Crusades, or by appeals to the king. "The king has been said to be the founder of the communes, but the reverse is more nearly the truth; it is the communes that established the king," says Michelet. They were enabled by their charters to maintain a well-armed force, which was liable to be summoned for the king's service, though it was seldom willing to go far from

¹ Hallam, *Middle Ages*, i. 262.

² Oman, p. 321.

³ *Ib.*, pp. 306-317.

home. The towns of Picardy sent companies of cross-bowmen to the army with which Philip Augustus won the battle of Bouvines (1214 A.D.). But he owed his victory to his men-at-arms. The French communal troops proved no match for the Flemish foot. The men who distinguished themselves most were some Brabançon mercenaries in King John's pay, who refused to surrender and were cut to pieces.

The wealthy and turbulent cities of Flanders provided a sturdy militia, whose reputation gained greatly by their victory at Courtrai (1302 A.D.). It was something new and marvellous, as Villani says, for a feudal army of 50,000 men, including 7500 cavalry and 10,000 crossbowmen, to be beaten by 20,000 burghers. The result was due to that arrogance and eagerness to be foremost which was so often fatal to the French chivalry. The flanks as well as the front of the Flemings were covered by a ditch. The leaders of the Italian mercenaries proposed to march round and post their men where they could intercept supplies. "The Flemings," they said, "are great eaters and drinkers; if we keep them long fasting, they will grow faint. They will quit their ground; and then the cavalry can charge and rout them without risk." But these "Lombard counsels" were scouted. The foot were not to be allowed to have the honour of the victory. The men-at-arms dashed to the front, floundered into the ditch, and were speared or struck down by "godendags," long-handled maces with iron spikes, like the Swiss "morning-star."¹

But two years afterwards it was shown near Lille that a much larger number of Flemish burghers was no match for a feudal army properly handled, and this was confirmed at Cassel in 1328, and again at Roosebecke in

¹ Rüstow, i. 138.

1382, when Van Artevelde was killed with 25,000 men. If infantry was to recover its old position it must combine excellence in the use of missiles with excellence in hand-to-hand fighting, and it was the association of the English archer with the dismounted man-at-arms that gave the first real shock to the feudal military system.

In England armies had passed through the same changes as in France, but the soil was less congenial to feudalism. Jutes and Anglo-Saxons came over in bands from different districts, and were only by slow degrees amalgamated into a nation. The Britons were mostly driven westward, instead of forming a subject population. The "folk" of each tribe controlled its affairs, and imposed restrictions on the right of private war. For war with other tribes, or defence against a foreign enemy, there was a general levy, the "fyrd." "The folk-moot was in fact the war-host, the gathering of every freeman of the tribe in arms. . . . But the strength of an English army lay not only in these groups of villagers. Mingled with them were the voluntary war bands that gathered round distinguished chiefs."¹ These bands of retainers were better equipped and more serviceable than the men of the fyrd, and superseded it in the time of stress caused by the inroads of the Norsemen. The sufferings of the people added to the power of the kings, who gave grants of land to their companions or "thegns," subject to the obligation of military service. The larger landlords made similar grants to their "cnihts";² sometimes weapons were provided as well as land. In Alfred's time it was enacted that all owners of 5 hides of land

¹ Green, pp. 172-173. Cf. Chadwick, p. 159.

² Maitland, pp. 298, 304. In England "knight" came to stand for the highest class of soldiery, while in Germany it dropped down to camp-followers. The knight was *miles*, not *eques*, while his equivalent abroad was "Ritter" or "chevalier."

(probably 600 acres) should be reckoned as thegns and bound to thegn service, while smaller owners must combine to furnish an armed man for every 5 hides.

In England as in France, danger led the smaller land-owners to place themselves under the protection of greater men, and to take an oath of fealty pledging themselves to be faithful and true, to love all that their lord loves and eschew all that he eschews.¹ The overlords took a similar oath to the king, and the king looked to them to bring the due number of armed men into the field. In this way something very like the feudal system was to be found in England before the Conquest, but it was developed by William I., who made grants to his followers on feudal tenure, and fixed the number of knights they were to furnish without much regard to hidage, by units of five or ten. The feudal force of England a century after the Conquest is estimated at 5000 knights.²

The coming of the Normans brought depression of the peasantry. A good deal of the land became the lord's domain-land, and "churls" mostly sank into "villeins," serfs bound to the soil. Nevertheless, the divisions between classes were less sharp than in France. Between lords and villeins there were sokemen, who were freemen and freeholders in a limited sense; they served in the wars, and formed the yeoman class, described by Raleigh as "an order of men which generally have composed our better sort of foot soldiers, and with which few parts of the world besides England are acquainted."³ The Norman kings were not obliged or disposed to give their great vassals the independence and power which they enjoyed in France. William and his successors always

¹ Maitland, p. 69.

² Round, pp. 261, 289-293.

³ Orrery, p. 62. Cf. Bacon, Essay xxix.

had mercenary troops in their pay, which might be used against rebellious lords, and they encouraged the payment of scutage in lieu of military service as it furnished them with the means of hiring knights. Private war was restricted, and few nobles had strong castles except during the years of anarchy which preceded the rule of Henry II. The barons, when resisting aggressions of the crown, and the king, when upholding the royal authority, felt the need of help from the lower classes, and had to buy it by concessions. As time went on the status of the villeins improved, the services due from them to their lords were defined, they became well-to-do, and were able to commute their obligations for money which was readily accepted by lords bound on Crusades or distant expeditions. By the middle of the fourteenth century a large proportion of the peasantry had become hired labourers instead of villeins. There is a ring of good fellowship which would have seemed strange to a French prince in the speech of the Black Prince to his archers before the battle of Poitiers.¹

The armies which Edward III. led to France were national armies of paid soldiers. The drawbacks of feudal service had been keenly felt by Edward I. in his Welsh and Scottish wars. It yielded an ill-trained and undisciplined host which was not bound to remain more than forty days in the field.² The twelfth century alternative, to accept scutage and hire foreign mercenaries,³ had been checked by Magna Carta, and could only be adopted on a small scale, as in the case of Gascon crossbowmen. The king might bargain with his vassals that they should furnish him with a reduced number of knights for an increased period, and so obtain a more useful force; but this method did not prove sufficient, and Edward I. intro-

¹ Baker, p. 146.

² Scott, i. 244, ii. 333.

³ Morris, p. 35.

duced the system of payment in spite of the opposition of the greater lords.¹ Of the 2400 men-at-arms which he took with him to Scotland in 1298, more than half were receiving wages from him.² In the fourteenth century this developed into the indenture system, under which the king made contracts with certain leaders to furnish so many men at fixed rates of pay.

For the foot English kings depended mainly on county levies. Military service, which was tending to become a matter of privilege abroad, was insisted on as the duty of all freemen. The arms and equipment which they were bound to have, according to their means, were specified by Henry II. in the Assize of Arms of 1181. The rules were revised by Henry III. in 1252, and by the Statute of Winchester (1285); the bow was introduced among the weapons, and periodical inspection of arms was provided for. When a war broke out, commissioners of array were sent to the counties to take over from the sheriffs the number of men called for, and to see that they were well chosen.³ Acts of Parliament provided that men sent abroad on the king's service should be at the king's wages (1344), and that no one should be forced to serve without the sanction of Parliament, unless he was bound by the terms of his tenure (1351).⁴ The foot were formed into bands of a score, a hundred, or a thousand, under vintenars, centenars, and millenars. The muster rolls of 1339 show that out of a levy of 11,200 men (exclusive of men-at-arms) half were armed with hand weapons and the other half were archers.⁵

The bow was little used in England before the Conquest. It always played an important part in naval warfare, and just as the Athenians and the Genoese were quick to re-

¹ Morris, pp. 57, 68.

² *Ib.*, p. 292.

³ *Ib.*, p. 92.

⁴ Scott, i. 264, ii. 332.

⁵ Oman, p. 593.

cognise its value, so the Vikings of the north made it one of their weapons, and prided themselves on their skill with it.¹ They seem to have dropped it when they settled in England. The "huscarles" or bodyguard of Canute were armed with the two-handed Danish axe, and that weapon largely superseded the Saxon spear. At Hastings Harold's best troops fought in the Danish fashion, on foot, armed with axes, and awaiting attack behind a stockade.² They may have hung their shields on the stockade, as was done on the bulwarks of ships. But William was well provided with bowmen and cross-bowmen, as well as with mailed horsemen, and it was by the co-operation of archers and cavalry that the battle was won. "The Saxon mass was subjected to exactly the same trial which befell the British squares in the battle of Waterloo—incessant charges by a gallant cavalry mixed with a destructive hail of missiles."³ The stockade gave little protection against the curved flight of arrows, especially when they were aimed high, as the duke directed. Darts, axes, and stones made a feeble reply to them; and sorties upon the assailants, sometimes provoked by feigned flights, ended in the rout of the men who made them. At length the Norman horsemen forced an entrance, and the English broke up.

From that time forward archers formed an important part of English armies, and archery was encouraged as a national sport. Fitzstephen speaks of it as one of the pastimes of Londoners in the time of Henry II.⁴ Richard I. took a thousand bowmen with him when he went to Palestine.⁵ Henry III. in the Assize of Arms of 1252 required all forty-shilling freeholders to provide themselves with bow and arrows, and arrows were sometimes

¹ Oman, p. 92.

² *English Historical Review*, ix. (1894), pp. 1, 208, &c.

³ Oman, p. 161.

⁴ Brand, ii. 392.

⁵ Scott, ii. 78.

exacted for the tenure of lands. But the Norman bow was under five feet in length, and had no great range or penetration. The early Plantagenets preferred the cross-bow. The six-foot long-bow with its cloth-yard shaft dates from the time of Edward I., and probably from his wars in Wales.

According to Giraldus Cambrensis, the South Welsh, especially the men of Gwent, excelled in archery. They had bows of elm so stout that they would serve for cudgels, and could send the point of an arrow through a three-inch door.¹ It became a rule in later days that the length of a bow should equal the archer's reach with his arms outstretched, and Welshmen are abnormally long in the arm. Three hundred Welsh archers formed part of the first expedition to Ireland; and the secret of success in Irish warfare, Gerald says, lay in mixing archers with the troops of knights.² The spear was the weapon of the men of North Wales. The South Welsh were Edward's allies, and in the first war against Llewelyn (1277) there were special corps of sagittarii nearly all of whom came from Gwent.³

At Falkirk (1298) five-sixths of the foot in Edward's army were Welsh. They numbered more than 10,000 men. Falkirk was a repetition of Hastings. Wallace's horsemen and light troops were soon driven away, and the solid rings or "schildrons" of his spearmen were at length demoralised and broken by the combined action of the English heavy cavalry and archers. At Bannockburn (1314) a much larger English army—

¹ Works, vi. 54, 177. In a trial made before Edward VI. in 1550, some archers shot through a one-inch board of well-seasoned timber (Longman, p. 431).

² Morris, p. 18.

³ *Ib.*, p. 34.

though its numbers must have been vastly exaggerated by the chroniclers—was less skilfully handled and met with disaster. The Scottish and English accounts differ, and may be best reconciled by supposing that Baker describes what took place on the English right, Barbour what occurred on the left. On the right, then, the English cavalry advanced along the Roman road with bogs on either side of them, and floundered into the pits or trenches which the Scots had dug in front of their position, covered with grass and brushwood. The archers whom they had left behind, were brought up to help them, but did more harm than good; for being in rear instead of on a flank, most of their arrows fell short of the enemy and wounded their own horsemen.¹ On the left there was firmer ground, and there the archers were thrown out on the flank, after crossing the burn, to prepare and support the advance of the knights. But they were rolled up and swept away by a well-timed charge of a small body of light horsemen.

At Halidon Hill (1333) the tables were turned. Edward III. was besieging Berwick; the Scots marched to its relief, and were obliged to be the assailants. Adopting a plan which had proved successful the year before at Dupplin Muir, Edward made his knights dismount, and formed them in three bodies or "battles" with wings of archers. The archers were posted in marshy ground which probably secured them from direct attack. The Scots were blinded by the rain of arrows as they advanced, and though they began to mount the slope on which the men-at-arms were drawn up, their courage failed, and they fled. Edward remounted his men and pursued them for several miles. The chronicler says: "*Ibi didicit a Scotis Anglorum*

¹ Baker, p. 8.

*generositas dextrarios reservare venacioni fugiencium et contra antiquatum morem suorum patrum, pedes pugnare."*¹

But it was by no means a new departure for English knights to fight on foot. To say nothing of the times before the Conquest, Henry I. won two victories with dismounted knights: Tenchebrai (1106) over his brother Robert, and Bremûle (1119) over Louis VI. of France. At Tenchebrai he followed Robert's example in making his knights dismount "*ut constantius pugnarent*," but he kept a small body of French knights on horseback and posted them at some distance on his right, to charge the flank and rear of the enemy. At Bremûle (according to Ordericus Vitalis) he dismounted 400 knights out of 500 in an open plain, and awaited the charge of the French knights, who as usual preferred to fight on horseback. They won some success at first, perhaps against Henry's mounted detachment, but they could not break the men on foot; many of their horses were killed, and the riders made prisoners; the rest fled, including Louis himself. The Anglo-Norman knights remounted, and pursued them so vigorously that the French king was driven to take refuge in a wood, and his horse and banner were captured.

Again at the Battle of the Standard (1138) the English knights fought on foot, drawn up with the Yorkshire levies of spearmen and archers that had been brought together to check the Scottish invasion. The Highlanders refused to let King David's knights lead the way, and claimed the front place. Their wild rush made only a momentary impression on the armoured spearmen, and they bristled like hedgehogs, we are told, from the arrows of the archers. Their ardour was quenched, and

¹ Baker, p. 51.

the Scottish army melted away to the rear, in spite of some success achieved by a small body of mounted knights.¹

Three years later, at the battle of Lincoln, Stephen fought on foot with the greater part of his knights and with the burghers of the city. He had two bodies of horsemen, but they were routed and driven off the field, and the horse and foot of the two earls (Gloucester and Chester) then combined against the king's corps,² the foot charging it in front, while the horse fell upon its flanks and rear. After a stout resistance it broke up, many of the men seeking refuge in the city, and Stephen, who continued fighting by his standard, was overthrown and made prisoner.

Considering the weight of armour, it must have been a disagreeable necessity for knights to fight on foot. There seem to have been two motives for it: to encourage and stiffen bodies of less well-armed footmen which had been brought into the field, or to make a stand against an enemy to whom they were unequal as cavalry, either in numbers or quality. The French knights were said to be terrible on horseback, but little to be feared on foot.³ The Germans were described as unskilful horsemen, and better able to strike with the sword than to thrust with the lance,⁴ and it became recognised as a Teutonic custom to dismount in grave emergencies. But probably it was a question of horses rather than of men. Matthew Paris speaks of English knights being mounted "*in equis satis bonis, licet non Hispanis, vel Italicis, vel aliis preciosis.*"⁵ William the Conqueror had a Spanish charger, and the infusion of Arab blood made the horses of Southern Europe generally sought after; but in England only

¹ Oman, pp. 386-391.

² *Ib.*, p. 394.

³ Scott, ii. 511.

⁴ Delpech, ii. 243.

⁵ *Ib.*, i. 439.

the richest barons and knights could afford them. In the thirteenth century plate armour began to come into use, superseding mail. As it developed the weight to be carried by a barded war-horse increased, and became something over 25 stone.¹ Flanders and the north of France produced the animals best suited to such heavy loads;² they could not move rapidly for any distance, but men on lighter horses were at a great disadvantage in direct collision.

Such considerations as these, together with his previous experience at Halidon Hill, led Edward III. to make his knights dismount, when he turned to offer battle to Philip of Valois at Crécy (1346). He had about 4000 cavalry, but nearly half of these were "hobelars," light-armed men mounted on little nags; and of the men-at-arms only one-fourth were "knights" in the restricted sense which the word had reached by that time. The rest were variously described as squires, sergeants, &c. In Philip's army there were 12,000 men-at-arms, of whom two-thirds were "gentils gens,"³ and about 60,000 foot, mainly communal troops, but including 6000 Genoese crossbowmen and other mercenaries. The English army was under 20,000 men all told, but there were 10,000 archers, of whom one-fourth were mounted.⁴

To make up for the disproportion of numbers an advantageous position was chosen between Crécy and Wadicourt, fronting south-east. The right flank was covered by the forest of Crécy. There was a shallow valley in front, and in rear there was a small wood, by the side of which the king caused a park to be made, "and there was set all carts and carriages, and within the park were all their horses, for every man was afoot;

¹ Scott, i. 219. ² Delpech, i. 442. ³ Chandos Herald, p. 310.

⁴ *English Historical Review*, xiv. 767.

and into this park there was but one entry."¹ The men-at-arms were formed in three "battles" with corps of archers, as at Halidon Hill; that of the Prince of Wales was in front, that of Lord Northampton (rather weaker than the others) was in immediate support "on a wing," and that of the king was in reserve on higher ground. Thus they were in echelon right in front.

At the battle of Bouvines (1214) the French cavalry were told—"One knight should not make another his shield; draw up so that all the knights may be in the front line."² It seems likely that this was the general rule, and that at Crécy (as at Agincourt) the English men-at-arms were four deep. Behind them there would be hobelars, and other men less well armed, "rascals that went afoot with great knives," Welsh or Irish. Villani says that the English, when fighting on foot, formed a compact body, almost round (like a Scottish schildron), and that each lance was held by two men.³ An eighteen-foot lance was unwieldy for a single man on foot, but the common practice was to cut it down to a length of five feet, that dimension referring no doubt only to the part in front of the hand-grip.

According to Baker of Swynbrook, the archers were placed, not in front of the men-at-arms, but at the sides of the king's army, like wings, so that they might not get in the way of the men-at-arms, nor meet the enemy face to face, but discharge their arrows at his flanks. Similarly a Valenciennes chronicler says that King Edward "ne fist que deux batailles d'archiers à deux costés en la manière d'un escut; et au milieu d'eulx se tenoit le prince de Galles."⁴ Froissart, on the con-

¹ Froissart, book i. chap. 128 (Lord Berners' translation).

² Oman, p. 469.

³ Scott, i. 311.

⁴ *English Historical Review*, xii. 432.

trary, says of the Prince's "battle" that the archers were placed in front in the form of a "herse," and the men-at-arms at the back.¹ He mentions that in the course of the fight some of the French knights went round the archers, and others broke through them, and fought hand to hand with the Prince's men-at-arms. King Philip would gladly have done the same, but there was such a great hedge of archers and men-at-arms in front that he could not.

Sir John Smythe, who wrote when archers were still to be seen in the field, and described how they were drawn up by "our most skilful and warlike ancestors," helps us to reconcile these conflicting statements. He says they were formed "into hearses—that is broad in front and narrow in flank, as for example if there were 25, 30, 35, or more or fewer archers in front, the flanks did consist but of seven or eight ranks at the most. . . . They placed their hearses of archers either before the front of their armed footmen, or else in wings upon the corners of their battles, and sometimes both in front and wings."² A contemporary plate of the battle of Pinkie (1547) shows the archers extended across the whole front of the three corps which are advancing to attack the Scots.³ George Monk, writing during the Civil War, shows how musketeers forming wings to a body of pikemen should be moved forward and spread out across its front for more effective fire.⁴ We may conclude that the archers at Crécy were formed by companies of 100 men in oblongs not more than eight men deep, with open ranks and files, that their normal position was on the

¹ "Missent les archiers tout devant en fourme de une erce, et les gens d'armes ou fons" (Rome MS., Luce's edition, iii. 416). The other versions are not quite so definite. Cf. *English Historical Review*, x. 538, 733, and xii. 427.

² Smythe, p. 30.

³ Cockle, p. 8.

⁴ Monk, chap. xv.

flanks of the men-at-arms and a little in advance of them, but that they may also have formed a continuous screen in their front, at all events at the beginning of the action. Shallow pits were dug in front of the line of battle, and would give the archers some protection from charging horsemen.¹

It was late in the afternoon when the French army came up, but the impetuosity of the lords, each eager to be foremost, disregarded Philip's orders to halt. The Genoese crossbowmen were sent forward, weary from a long march, and their bowstrings wet from rain, for they could not be taken off and put under cover like the string of the longbow. As they came on they gave great shouts at intervals to scare the English, and when they reckoned themselves within range they shot fiercely; but their bolts fell short. "Then the English archers stept forth one pace and let fly their arrows so wholly and so thick that it seemed snow. When the Genoese felt the arrows piercing through heads, arms, and breasts, many of them cast down their crossbows and did cut their strings and returned discomfited."²

The French men-at-arms charged through the crossbowmen by the king's orders, spearing and trampling them, but they were themselves shot down by English arrows, or overthrown by one another in the press. As King Edward wrote, there died more than 1500 knights and esquires in the part of the field where the armies first came together. Nevertheless "the battle was very tough and lasted long, for it lasted from before the hour of vespers till evening, and the enemy bore themselves very nobly and often rallied."³ They made three main attacks, directing their efforts against the English

¹ Baker, p. 84.

² Froissart, book i. chap. 130.

³ Edward to Sir T. Lucy (Chandos Herald, p. 310).

men-at-arms, and apparently neglecting the archers. The Prince's "battle" was so hard pressed that Northampton moved up to its assistance, and the king also sent some twenty or thirty knights in reply to an urgent appeal. But the "battles" remained unbroken, the English losses were trifling, and in the course of the night the French army melted away, leaving many thousands on the field.

It was not the first time that crossbow and longbow had been pitted one against the other, but the conditions at Crécy made the most of the advantages which belonged to the latter. The six-foot bow had longer range than the ordinary crossbow, and three or four times the rate of fire. A good archer could shoot two arrows in a minute; he would seldom miss at 220 yards (the standard practice range) and could send his arrows twice that distance. On the other hand, the crossbow required less strength and skill; it could be used lying down or under cover; its bolts were much cheaper than arrows, and much more plentiful. The archer in the field had only his sheaf of twenty-four arrows, and in provisioning a place for a siege the allowance of bolts for each crossbow was ten times that of arrows for each longbow. At short ranges the crossbow was reckoned the more accurate weapon, and Edward III. told the Sheriffs of London in 1349 to encourage the use of it, as well as the use of the longbow.¹

The French learnt at Crécy that they must be ready to fight on foot; but they did not learn to choose the defensive, nor did they provide themselves with better shot. In the army of 50,000 men with which Philip's successor, John, attacked the Black Prince near Poitiers (September 19, 1356) there seem to have been only

¹ Scott, ii. 110.

2000 crossbowmen, and their shooting had no great effect. Edward was returning from his raid to the Loire. He had only 8000 men (English and Gascon), of whom 3000 were men-at-arms and 2000 archers. Finding himself overtaken, he chose a strong position on the right bank of the Miosson, "among hedges, vines, and bushes." The English were short of food, and might have been starved out, if John had sent a force to the left side of the stream to bar their line of retreat. Apprehensive of this, they were in the act of crossing the stream when the battle began, and the rearguard was first engaged.

There was a continuous hedge along the front of their position, except for one gap where the road to the ford passed through it. The hedge was lined with archers, and a stone's throw behind the gap Salisbury's men-at-arms were drawn up on foot, with their archers in front of them "in manner of a herse." On the left was Warwick's "battle," while that of the Prince was held in reserve. The French army was also in three main bodies: the right under Orleans, the left under Normandy, and the reserve under the king. Most of the men-at-arms were dismounted, but mounted corps of a few hundred men on barded horses were sent ahead to ride down the archers. The horse-armour proved of little service, for the archers extended and struck the horses in flank. They became unmanageable, and caused confusion in the ranks of foot behind them. The Prince made better use of his cavalry, sending small corps round to charge the enemy in flank and rear, while they were engaged. There were collisions between the bodies of dismounted men-at-arms, but on a narrow front, where personal strength told for more than numbers. The English were nearly worn out by repeated assaults,

and many of the archers had spent all their arrows, before the battle was won.¹

Though the treaty of Brétigny made peace between France and England, French and English bands continued to fight with one another as auxiliaries in other quarrels. The war had produced one great French leader, Bertrand du Guesclin. At Cocherel (1364), finding his enemy strongly posted on a hill, he took care not to repeat the mistake of Poitiers. He feigned a retreat, and owing to the impetuosity of the captain of the English contingent, he drew them down from the hill, and engaged them on equal terms. When the English saw the French turning on them, "a little they recoiled back and assembled together all their people, and then they made way for their archers to come forth on before, who as then were behind them. And when the archers were forward then they shot fiercely together, but the Frenchmen were so well armed and so strongly pavised that they took but little hurt."² There were only 300 archers, one-fourth of the total of the men-at-arms. The Captal de Buch, who was in chief command, came down from the hill with the rest of his men, to support the English; but he was captured by a chosen band of Breton horsemen told off to fall on his rear, and after an obstinate fight nearly all his men were killed or taken prisoners.³

At Auray in the same year Du Guesclin was less fortunate. He was with Charles of Blois, one of the claimants of the Duchy of Brittany. Montfort, the rival of Charles, had Chandos to assist him, and followed his advice that "it is better to act on the defensive, for

¹ Baker, pp. 143-153; Chandos Herald, pp. 61-92; Froissart, book i. chap. 159-166.

² Froissart, i. chap. 221.

³ Luce, pp. 444-448.

those who attack first generally get the worst of it." The victory was won, not by the English archers, who, as at Cocherel, made little impression on the plate armour of the dismounted men-at-arms, but by the judicious use of a small reserve which Chandos had provided. Its leader, Calverley, had been most unwilling to be left behind, but he kept his men well in hand, reinforcing one weak point and then another. Charles of Blois was killed, and Du Guesclin was made prisoner.

Three years later he was again taken prisoner at Najera (1367) after fighting gallantly as the ally of the Castilians against the army of the Black Prince. Here again English and French fought on foot, and the novel feature of the battle was the encounter of the Spanish genetours or light horsemen with the English men-at-arms and archers. The arrows of the latter soon drove the genetours off the field, for their horses were unarmoured, and they could not get near enough to throw their javelins.

Du Guesclin was made constable in 1370. He made it a rule to avoid pitched battles with the English, but in a few years of harassing warfare he expelled them from nearly all the French territory which they had gained. The lesson was soon forgotten, and at Agincourt (1415) another constable gave Henry V. the opportunity to outdo Poitiers. Henry was marching north to Calais with an army reduced to less than 10,000 men. The constable, D'Albret, had declined opportunities of attacking him, but took up a position barring his road with an army six times as numerous. Between the woods of Agincourt and Tramecourt there was half a mile of ploughed land through which the road ran, and the French army was posted a little to the north, closing the mouth of this defile.

St. Rémy says: "They had sufficient archers and crossbowmen, but they were unable to use their bows from the narrowness of the place, which did not afford room for more than the men-at-arms." There were three corps, one behind another, in very deep formation; and, as usual, each of the French knights claimed to be in front. All were on foot with the exception of the rearguard, and of two bodies of about 600 horsemen in front of each wing, who were to ride down the English archers.

Henry took care not to play his opponent's game by trying to force a passage. He drew up his army about a mile to the south, in front of Maisonnelle. He had only about a thousand men-at-arms, and narrow as the field was, he was obliged to place his van and rearguard in line with his main body, leaving himself no reserve, and having nowhere more than four ranks. In the intervals between the corps he placed masses of archers; but just before the battle began, their marshal, by the king's order, led the archers forward, and posted them in advance of the line in two wings (*au froneq devant en deux elles*).¹ Some days before the king had told them to provide themselves with stout stakes, six feet long, and these they planted at a slope in front of them as *chevaux de frise*.²

For some hours of St. Crispin's day (October 15) the two armies faced one another without moving, each waiting for the other to attack. At length, finding it was necessary to sting the French into action, Henry made his men advance slowly "in fine order," giving a great shout as they halted from time to time, until the archers came within extreme bow-shot of the enemy. As soon as the mounted men who were in front of the

¹ St. Rémy, i. 253.

² Gesta, pp. 42, 50.

wings of the French army began to feel the English arrows, they charged; but the ground was sodden, and under the rain of arrows few of them were able to reach the stakes, which the archers had refixed. Most of them found their horses unmanageable, and rode back upon their own vanguard, which was toiling after them, and in which they caused much confusion. It pressed on, but not with an even front: "either from fear of the arrows, . . . or that they might more speedily penetrate our ranks to the banners, they divided themselves into three troops, charging our lines in the three places where the banners were."¹

The English men-at-arms were forced to give ground, but soon recovered themselves. Meanwhile the archers plied the flanks of the enemy with their arrows, and when the arrows were expended they "quitted their stakes," and fell on with swords, axes, and hammers. Archers and men-at-arms together hewed their way through the ranks of the French vanguard, and into the corps behind it. The rearguard being still mounted, and seeing the fate of the two first lines, took to flight. Even French writers estimate the French loss at 10,000 men, six times as much as that of the English.

The following is the comment of Jean de Bueil,² whose father and uncles fell at Agincourt, and who was himself a distinguished captain in later years: "The night before, they (the French) lay in a field where they were up to the knees in mud, and next morning they marched across a stretch of ploughed land to meet their enemy; and they went so far to seek them that

¹ *Gesta*, p. 53.

² *Le Jouvencel*, part ii. chap. xvii. This is a romance written under his supervision, and founded on his own career, describing the education of a soldier of the fifteenth century.

when it came to fighting they arrived few in numbers, one after another, and were out of breath, and were discomfited. And therefore, a corps on foot should never march, but should always await the enemy standing still. For when they march, as they are not all of the same strength, they cannot keep their order. A mere bush is enough to break them up. A power which marches against another power is undone, unless God help it. So let him who can, choose a good position and without loss of time."

Elsewhere¹ Bueil considers the question how a leader is to act if his enemy adopts these defensive tactics. He should select the best position he can find near them, and get command of the river, if there is one; for it will not only serve as a protection, and to water the horses and cattle, but it makes provisioning easier. He should deprive the enemy of these facilities, and should make raids round them to intercept their supplies, so that they may be forced to move, and either to attack him on his chosen ground, or give him the opportunity of attacking them on the march.

If the enemy are weaker than he and are likely to escape, and the leader therefore decides to attack them in position, he should choose the weakest side, and make feigned attacks on other sides. Instead of closing with the enemy, he should force them to close with him, or be killed off man by man; and he should leave their rear open for flight, for the cowards will make off and will dismay the brave, and the fugitives can be overtaken afterwards. Men-at-arms should be formed in a solid mass (*grosse tourbe*) to enable them to break through the enemy's corps; for a corps broken through is lost, and if it is thin it is easy to break. Horsemen

¹ Chap. ix.

should never be put in front of foot, but always on the wings.

Such were some of the lessons learnt in the forty years of war which ended in the second expulsion of the English from France. The French had found it necessary to follow the English example, and the war was carried on, not by feudal armies, but by bands of paid soldiers under chiefs who had a contract with the king. In time of truce their pay ceased, and they went in search of employment and plunder. After the peace of Bretigny (1360) several thousand men who had been in English pay found their way to Italy, where they were known as the White Company, and played a part in the wars between Florence and her neighbours. Their leader, John Hawkwood, won great renown, and founded a school of condottieri. Similarly, after the truce of 1444, the Dauphin (afterwards Louis XI.), to relieve France of the burden of the *Ecorcheurs*, as some of these bands were significantly called, led an army of them against the Swiss. Bueil, who had learnt his trade under La Hire, and had become a leading captain, was in immediate command of the troops which won the battle of St. Jacob. Some 2000 Swiss rashly crossed the Birs, and assailed a force many times their own strength.¹ They were cut to pieces, but at a cost which led Louis to hold them in great respect ever after.

It was on the return of the bands from this campaign that Charles VII. entered upon a reorganisation which laid the foundation of the French standing army. Fifteen companies of 100 "lances" each, making a total of 9000 men, were taken into permanent pay as regular troops (*compagnies d'ordonnance*), and the rest of the men were disbanded.²

¹ Bueil, i. p. cvi.

² *Ib.*, p. cxxviii.

Three years afterwards Charles tried to raise a militia of bowmen. He ordered each parish to provide a "free archer." This force was reorganised by Louis XI. in 1469, and was formed into four corps each consisting of eight companies of 500 men. Some were armed with bills or pikes, others with bows or crossbows. But the men had no common bond and no exercise in time of peace; the men-at-arms made a mock of them, and after their misbehaviour at Guinegate¹ (1479) Louis found it better to take money from the parishes and to hire Swiss. An earlier attempt of the same kind had been made at the end of the fourteenth century. Orders had been given that in France, as in England, all the people should learn the use of the bow, and practise it as a pastime; but the nobles, it is said, became alarmed at their proficiency, and the orders were cancelled.²

Some of the professional soldiers were of course drawn from the lower classes, but it was held in France that

"Pour vestir fer et en armes combattre,
Dieu et nature ont noblesse ordonnée."³

The industrial classes contributed little directly in the way of men, but they found money. The sufferings of France made the people rally round the king, and their support enabled Charles VII. to transform the *taille* into a tax payable to the crown, instead of the feudal lord, and variable at the king's pleasure. This gave him and his successors the means of maintaining a standing army. It paved the way for absolute monarchy in France, as French kings had not to promise redress of grievances in order that their chambers might vote supplies.

One immediate result was that, with the help of the

¹ Susane, i. 43, 48, 74.

² Napoleon III., iv. 39.

³ Bueil, i. p. xxviii.

brothers Bureau, Charles was able to provide himself with a train of artillery for which medieval fortifications were no match. The towns and castles of Normandy were retaken from the English with astonishing rapidity, and guns began to count for something even in the open field. At Formigny (1450) a force of 5000 English, who had chosen a good position and intrenched it, were so galled by two culverins that they sallied out, and in the *mêlée* which ensued three-fourths of them were killed. Three years afterwards, when Jean de Bueil was besieging Castillon in Guienne, the aged Talbot tried to storm the French intrenchments in order to raise the siege. But his horse was killed by a culverin shot, his men were repulsed, and he was himself despatched by an archer as he lay on the ground.¹

While the chivalry of France was being taught by the English that it was best to fight on foot and to await attack, and that well-equipped men-at-arms, with the help of archers, could hold their ground against great odds, the Swiss were giving the knights of Germany still stranger lessons. Few in number, with scanty armour, and with little use of missiles, they charged and overthrew them whether mounted or on foot. At Morgarten (1315) the success of the Swiss might be explained by the ground; they caught the Austrians at advantage between lake and mountain. But at Laupen (1339) the country was fairly open and fit for cavalry. Yet 900 men of the forest cantons held their own against three times their number of heavy horsemen, until the men of Berne, after routing the Burgundian foot, came to their assistance.

When Leopold of Austria encountered the Swiss at Sempach (1386) he made his knights dismount and

¹ Bueil, i. p. cci.

await attack, according to the approved English practice. The Swiss were outnumbered (by three to one, according to their own account), but they charged down upon the Austrian line in a single deep column. They were repulsed, but the Austrians made no counter-attack. The Swiss tried again and again, each of the four cantonal contingents taking the head of the column in turn, and at length Arnold of Winkelried broke the Austrian array. When once intermingled, lances were no match for halberds; Leopold and half his men were killed.

Having won freedom at home, the Swiss soon sought to win money abroad. Following the example of the free companies, bands of them descended into Italy. A body of 4000 was met and worsted at Arbedo (1422) by Milanese troops under Carmagnola, one of the best of the condottieri. Finding that his horse could make no impression on them, he caused them to dismount, "and engaging them (the Swiss) smartly in that posture, he put them all to the rout and most of them to the sword."¹ This led the Council of Lucerne to decree "that as things had not gone altogether well with the Confederates," there should be a larger proportion of pikes in future.

The league of the three forest cantons, formed in 1315, had become a league of eight cantons by the middle of the fourteenth century, and included two important towns, Berne and Zurich. The combination of townfolk with peasantry added to their strength. The halberd—which had the edge of an axe, the spike of a spear, and usually a hook at the back, with a six-foot staff—was at first the principal weapon; but some of the men, chiefly townsmen, had pikes ten feet long. The forces of the urban cantons were made up of two classes, the citizens,

¹ Machiavelli, p. 452.

and the men of the dependent communes, who were sometimes officered by the citizens. The communes formed separate military units, unless they were small; the townsmen were organised by guilds. A Zurich muster-roll of 1444 shows that in a levy of 2770 men (of whom 639 were townsmen) three-fifths had halberds, one-fifth pikes, and one-fifth missile weapons. These were mostly crossbows, but there were 61 hand-guns.¹ Body armour was almost confined to breast-plates and head-pieces; many of the men had none. The proportion of mounted men was very small, consisting only of the wealthier citizens. The fighting value of the Swiss lay, not in drill or equipment, but in their individual courage, strength, endurance, and activity, and in the national spirit developed among them. Their ferocity helped to make them formidable. The taking of prisoners was forbidden unless they were likely to yield large ransoms.

The full levy of a canton was called a "banner," as it had the cantonal banner with it, borne in the middle of the main body, and guarded by files of halberdiers. About one-fourth of the levy formed vanguard and rear-guard, and these comprised all the shot, and a large proportion of pikes. If van and rear closed on the main body the whole would form a cross, which is mentioned by Machiavelli as a Swiss formation; but habitually the three bodies were kept apart and in echelon, so that they might be the better able to make flank attacks or to guard against them. When a great confederate army was formed by several cantons, it was also divided into three bodies, each capable of fighting independently, and having its own vanguard and rearguard. The depth of the files varied with the numbers, for the several corps

¹ Rüstow, i. 162.

were made approximately squares, in order that they might be handier for manœuvres, and ready to meet attacks from any quarter. A communal unit furnished so many files, according to its strength, and the men of a file were commonly armed alike.

If a foreign prince asked for Swiss mercenaries, and the request was granted by the diet of the League, the diet fixed the contingent of each canton; the cantonal governments settled how many men should be furnished by each commune, and the men were chosen by the municipal officers or the captains. There were always more men willing to go than were needed. When the whole force came together it chose its leaders. The price of mercenaries was about four florins a month. Payment was made to the diet, which divided the sum received among the cantons.¹

Reference has already been made to the fight of St. Jacob (1444) between the French *Écorcheurs* and the Swiss. "Noblemen who had been present in many engagements with the English and others have assured me," says a French writer (quoted by Michelet), "that they never saw or met with men who defended themselves so stoutly, or exposed their lives so daringly and rashly." Louis saw that it was better to have such men as allies than as enemies. He contrived to bring them into the field against his rival, Charles of Burgundy (known as Charles the Bold in his earlier years, but latterly as Charles the Rash); and he afterwards hired 6000 of them himself, setting an example which his successors followed for three centuries.

Charles, though a bad general, was an indefatigable soldier and a painstaking organiser. Dissatisfied with the feudal militia, he set to work in 1472 to form a standing

¹ Kohler, p. 23.

army like that which had been initiated by Charles VII. in France. This rose to the number of 2200 "lances," each consisting of eight men, viz. a man-at-arms, a couillier, three mounted archers, and three men on foot, armed with pike, crossbow or culverin. They were divided into companies of 100 lances. The mounted men and the infantry formed separate companies, but acted together, the pikes being drawn up in line or square in front of the archers, and reinforced by dismounted men-at-arms. In addition to these 18,000 regulars (*ordonnances*¹) who were mostly recruited from abroad, he had more than 2000 English archers, and other mercenaries, and a large train of artillery. The wealthy cities of the Low Countries groaned under his exactions for the maintenance of troops which failed him when they were put to the test.

The aggressions of Charles had raised enemies on all sides, and among these was Berne, which dragged the rest of the cantons along with it. While the duke was besieging Neuss, in 1474, the Swiss helped to defeat his lieutenant in Franche Comté; and in the following year, while he was annexing Lorraine, they attacked his ally, the Duchess of Savoy. At the beginning of 1476 he crossed the Juras with 25,000 men, declaring that he would teach those peasants what war was like. He took Granson, on the lake of Neuchâtel, hanged the garrison, and then marched along the lake to meet the army of the Confederates, which was coming up to save the town. It numbered about 16,000 foot and 500 horse. The Burgundian cavalry charged the Swiss vanguard, but it was reinforced and stood its ground. There was no room for cavalry to manœuvre between the hills and the lake, and they masked the fire of the guns, so Charles told them to fall back to more open country. As soon as the two wings

¹ Toutey, p. 204 n.

of cavalry were seen to be wheeling off to the rear, the infantry drawn up behind them took it as a signal for retreat, and made off with all haste, leaving the guns on the field. Charles tried to rally them in vain, and the cavalry soon followed them. It was a victory won, not by hard fighting, but by the prestige of the Swiss and the bad handling of the Burgundians. The Swiss were apt "to strike their enemies with terror at their mere approach," as the people of Strassburg had said when they asked Berne to send them 400 men a few months before.

Charles himself, however, was not cowed, and in three months he had got together a larger army than that which was scattered at Granson. He reorganised his regulars in eight battalions of 2000 men each, of whom only one-fifth was mounted. In June he laid siege to Morat, and on the 22nd he was attacked there by the Confederate army sent to raise the siege. Including auxiliaries from Alsace and Lorraine, it numbered 25,000 men or more. The advance of the Swiss was screened by woods; it took Charles by surprise, and his men were not in their places. He had made an intrenchment, and mounted guns to guard the flank of the position which covered his principal camp; but the Swiss worked round it, and the Burgundian battalions which were first brought up found themselves assailed both in front and in flank. They gave way, and Charles tried in vain to fall back to a fresh position. His men broke and fled; but, hemmed in by the lake, it was not easy for them to escape, and the Burgundian army was practically destroyed. Its loss is reckoned at 22,000. The Swiss owed their victory partly to the tactical skill of their Austrian leader, Herter, but mainly to their rapidity of movement and impetuosity in attack.

There was little chance that the fortune of war would

be reversed when Charles met the Swiss for the last time near Nancy (January 5, 1477). He had raised a fresh army, but it had dwindled during the siege of Nancy to 10,000 men or less, of whom not more than half could be trusted. René, the dispossessed Duke of Lorraine, brought up nearly double that number to raise the siege, and his force included 8000 Swiss, enlisted with the approval of the League, but not under "banners." Against advice, Charles determined to fight, and chose a position south-east of Nancy with his left on the Meurthe. There were woods on his right, and these, together with a snowstorm, concealed the movements of René's army. While half of it attacked in front, the other half fell upon the right flank of the Burgundians. Soon both flanks were turned, the guns were taken, the cavalry rode off, and the infantry were cut to pieces. Charles disappeared; a body said to be his was found some days afterwards, and was buried at Nancy. One of his principal officers, Campobasso, had deserted before the battle, and helped to intercept the fugitives.

The armies of Charles the Rash cannot be regarded as the best type of medieval armies. Every race and every weapon were to be found in their ranks, but they were held together only by a cash nexus. There was no common or prevailing nationality, and little attachment to the duke or confidence in him. Yet the downfall of the house of Burgundy, "the most flourishing and celebrated of any in Christendom,"¹ when it seemed to be on the point of establishing a middle kingdom between France and Germany, made a deep impression. After this achievement of the Swiss peasantry it was idle to say that the wearing of armour and the use of weapons was reserved by God and nature for persons of quality.

¹ Commynes, i. 342.

IV

THE SIXTEENTH CENTURY

GUIZOT has remarked that in the sixteenth century the history of Europe becomes essentially diplomatic. Kings who had hitherto been engaged in putting their own houses in order, now found leisure to look abroad. To bring other countries under their rule by wars or marriages became their chief business ; and while the stronger powers aimed at predominance, the weaker sought to maintain the balance of power. This interest in foreign politics was the cause as well as the effect of the growth of royal authority. It demanded more highly organised armies, capable of prolonged service abroad, and available for crushing resistance at home ; and means for the maintenance of such armies were furnished by the wider dominions and greater wealth of the principal states.

The Swiss had shown that good infantry could win battles, either alone or with a small proportion of horse ; and the comparative cheapness of foot soldiers made all countries try to obtain troops on the Swiss model or up to their standard. The Swiss retained their pre-eminence for some time. "They are, to speak the truth, a very warlike people," says Montluc, "and serve as it were for bulwarks to an army ; but then they must never want either money or victuals ; for they are not to be paid with words." They were apt to "carry themselves very frowardly and obstinately" towards their employers, and

sometimes failed them. They were enlisted either as independent bands, or by agreement with the cantons or the Confederation. In the latter case they carried banners, and no man might fight against the banner of his own canton or that of the Confederation under pain of death. On this ground the Swiss hired by Ludovico Sforza refused to fight the French army at Novara, in 1500; they could not do it, they said, without the leave of their lords.

The earliest competitors of the Swiss as mercenaries were the German landsknechts (*lansquenets*). It is said that they were finer-looking men than the Swiss, and better equipped, but not so stout-hearted, or well disciplined.¹ They were freely enlisted in bands under well-known captains, and owed their development in the first instance to Maximilian, who recruited them in his hereditary states. Most of them were armed with swords and pikes, which soon increased in length from 10 feet to 18 feet or more, but some had halberds and some had firearms. In the Swiss bands also there were three times as many pikes as halberds by the end of the fifteenth century.

The French kings were mainly dependent on Swiss and German mercenaries for their infantry. Henry VII. of England told his Parliament in 1491: "France hath much people and few soldiers. They have no stable bands of foot. Some good horse they have." And Machiavelli reported, when on a mission to France in 1510: "All the nobility are devoted to military life, hence the French men-at-arms are of the best in Europe. The foot soldiers on the other hand are bad, being composed of rabble and labouring folk subject to the barons, and so oppressed in every act of life that they are vile.

¹ Communes, ii. 260.

Exception, however, must be made of the Gascons, who being near to Spain, have something of the Spaniard, and are a trifle better than the others, although in recent times they have proved themselves rather thievish than valiant. Yet they behave well in the defence and attack of fortresses though badly in the open field. In this, too, they are the reverse of the Germans and Swiss, who are unrivalled in the field, but worth nothing in attack or defence of fortified places."¹

The bands of Picardy and Piedmont, the first raised by Louis XI. in 1480, the second by Louis XII. in 1507, were the beginning of the native French infantry. Bayadr took charge of a company of 500 foot, which played a principal part in the capture of Genoa, and many men-at-arms served under him. After the Swiss had failed Francis I. at Pavia (1525) he tried to provide a native substitute for them by the creation of his "Legions," seven provincial corps of which the strength was fixed at 6000 each. But the legionaries proved poor soldiers, and would not fight without Swiss or Germans to support them; the gentry complained of their misbehaviour, and it was found better to revert to a money tax in lieu of personal service.² These provincial troops survived, however, as a militia until the Revolution. They were occasionally called out, and were of some service to Louis XIV. in his later wars.

In 1506 Machiavelli persuaded the Florentines to raise a militia for the defence of their liberties, instead of trusting to mercenaries. It behaved well when Florence was besieged in 1529, but was not able to prevent the restoration of the Medici. Italians ranked high as officers and engineers, owing to their alert intelligence and large practical experience of war; but as mere fighting material

¹ Villari, i. 477.

² Vaissière, p. 88.

they were no match for Swiss or Germans. With Spain the case was different. Spaniards, unsurpassable in fighting behind walls, have not generally shone in the open field. At Najera in the fourteenth century as at Talavera in the nineteenth, they compared unfavourably with French and English. Wellington found them "children in the art of war"; but Gonzalo of Cordova showed in Italy, as Hannibal had shown before him, that they could hold their own with any troops in Europe.

"The Great Captain" and his officers had learnt their trade in the ten years' war of Granada (1481-1491). A corps of Swiss mercenaries was employed in it; and in the small army which Gonzalo took to Naples in 1495 there was a proportion of pikes, which was increased to one-third at the end of his first campaign. But the bulk of his foot were armed with sword and buckler; hardy and active, they were excellent light troops, but unused to fighting in close order. It was in Calabria and the Southern Apennines that he won his first successes, which helped to drive the French out of Naples. In 1502 war broke out again between French and Spaniards in Southern Italy, and Gonzalo was blockaded in Barletta. A Spanish force on its march to him from Reggio was intercepted by D'Aubigny, one of the French commanders, but "by the help of their bucklers and the agility of their bodies, having got under their pikes, and so near that they could come at them with their swords, the Spaniards had the day with the slaughter of most of the Swisses."¹ A week afterwards (April 27) Gonzalo, unaware of this victory, and hard pressed for food, marched out from Barletta and intrenched himself on a hill at Cerignola. He had 3000 Spanish foot and 2000 Germans. Nemours, the French viceroy, attacked him with a force of Swiss and Gascons;

¹ Machiavelli, p. 53.

but the attacks were repulsed, Nemours was killed, the French army was routed, and the Spaniards gained possession of Naples.

At the battle of Ravenna (1512) artillery for the first time played a decisive part in the field. The cavalry of the Spanish army was so galled by the French guns that they left their position and advanced to the attack, followed by the foot. The French won a complete victory, yet the manner in which the Spanish infantry, under Peter of Navarre, made good their retreat added to their reputation. "At the first encounter with the Lance-knights they were somewhat shaken by the firm and close order of the pikes, yet coming afterwards to the sword's point, many of the Spaniards covered with their targets, running with their daggers and short weapons between the legs of the Lance-knights, they came with a wonderful slaughter almost to the very midst of their squadron."¹ Finding the day was lost, they retired slowly, beating off all the charges of the French, and killing Gaston de Foix, who himself led one of them. Peter of Navarre (the man who first showed what might be done with gunpowder in mines) was taken prisoner.

The increased use of firearms, and especially of artillery, was detrimental to the shock tactics of the Swiss. They resisted change, and made it their rule to go straight for the guns. Death was the penalty for any man who broke rank, or even showed signs of fear. At Novara (1514) they redeemed the credit which they had lost there fourteen years before, by a night sortie in which they routed the French besieging army and took their guns. At Melegnano (1515) they attacked the French army with the same impetuosity, and in greater force, but not

¹ Guicciardini, p. 418.

under cover of darkness. The country was intersected with ditches, which furnished successive lines of defence, and hindered movement. They forced the French to fall back, but the guns and the Gascon crossbowmen inflicted heavy loss on them and kept them in check, until (on the second day of the fighting) the approach of the Venetian army obliged them to retreat to Milan, whence they returned to their own country with lessened prestige.

Having re-entered the service of France, they met with another reverse at the affair of La Bicocca (1522). Some 8000 of them insisted on trying to storm intrenchments held by Spanish shot, without waiting for the turning movement which their commander, Lautrec, wished to make. They broke in, but before they could re-form they were charged by landsknechts, and were beaten with a loss of nearly half their number. It was perhaps from the discouragement of this affair that three years afterwards at Pavia the Swiss "did nothing answer the valour they had been accustomed to show in battles."¹ Attacked by the Spaniards both in front and flank, they broke and fled; owing to their behaviour, to the effectiveness of the Spanish infantry fire, and to his own impetuosity, Francis I. lost the day and became the prisoner of Charles V.

In his dialogues on the Art of War, Machiavelli compared the Swiss pikemen to the Macedonian phalanx and the Spanish sword-and-bucklermen to the Roman legionaries. He thought that the phalanx was bound to fail, as it had failed in ancient times, against good infantry armed with weapons better suited for hand-to-hand fighting. He would give swords and bucklers to half his foot, pikes to one-third, and the remaining sixth

¹ Guicciardini, p. 636.

should be light troops, armed with harquebuses, cross-bows, partizans or halberds. Brantôme speaks slightly of "ce bon galant de Machiavel, mauvais instructeur de guerre certes"; but he says the Duke of Guise told him that he would give a good account of a battalion of 5000 or 6000 Swiss if he had 1500 young and active soldiers (Basques, Gascons, or Spaniards) armed with good harquebuses and long daggers, and formed in four or five bands, to attack and retire alternately after the Arab fashion.¹ Soldiers of repute in later days—Maurice of Nassau, Rohan, and Montecucoli—had a leaning towards bucklermen. Nevertheless the long pike (5½ to 6 yards) prevailed, and for two centuries held the first place among hand weapons. The Spaniards themselves discarded their bucklers, and halberds became confined to the colour-guard and the sergeants. They were more convenient to carry and to use in a *mêlée*, but they were not so well suited to orderly fighting in close formation, and were at any rate reserved for the rear ranks.

Sir John Smythe, writing at the end of the sixteenth century, described how pikes should charge. There should be no fencing with the enemy, but the first four ranks should close up, and level their pikes. "Moving forward together pace with pace and step with step, carrying their pikes firmly with both their hands breast high, their points full in their enemy's faces, they do altogether give a puissant thrust." If this does not overthrow the enemy they must drop their pikes or throw them forward into the enemy's ranks, and attack with sword and dagger, one in each hand.² The Spanish sword, which was longer and more sharp-pointed than those of the Swiss and Germans, found favour

¹ *Susane*, i. 177.

² *Instructions and Orders Military*, pp. 25, &c.

generally; Smythe complained that good old-fashioned broadswords of three-quarters of a yard were being superseded by rapiers of a yard and a quarter.

The Spaniards made more use of defensive armour than the Swiss, and this gave them an advantage in close fighting. Their pikemen wore morions, gorgets, corslets, and tasses (jointed thigh-pieces); and other nations followed their example in so far as the individual soldier could be persuaded to bear the burden. Men grew impatient of it as firearms became more effective, for the armour increased in weight and was a doubtful protection.

Hand-guns may be traced back to the fourteenth century. They were small cannon mounted on sticks, with a touch-hole to which a match was applied. They were chiefly used in sieges, and in the fifteenth century they came to be known as hand-culverins. They threw leaden bullets of an ounce or two, and weighed about 10 lbs. Charles of Burgundy attached a "coulevrinier" to each lance, and Edward IV., when he landed at Ravenspur in 1471, brought with him 300 culverin-men whom Charles had obtained for him. The Swiss also were well provided with them. In the latter part of the fifteenth century the hand-gun was made into a match-lock by the addition of a cock to hold the match and a trigger to bring it down on the pan. The stock was also curved or crooked, so that the piece could be aimed and fired from the shoulder. "Hakenbüchse," or simply "haken," was the name given to such arms in Germany. This became hackbuss or *haquebut* in England, as imported direct, and *harquebus* after passing through Italy and France. The latter name, especially in its Latinised form, *arcus busus*, suggests connection with the cross-bow; but this was probably mistaken etymology, like "Lance-knights."

Germans and Spaniards took readily to firearms, while the English preferred the longbow, and the Gascons the crossbow. There was great variety in the length, weight, and calibre of the firearms. There were demi-haques, probably for use on horseback; and again there were haquebuts and *harquebuses à croc*, that is to say, with a hook to catch on a wall or stand, and take the recoil. These wall-pieces sometimes weighed as much as 50 lbs., and had bullets of 3 or 4 ounces, while the ordinary harquebus bullet weighed about 1 ounce. In 1520 the Spaniards took an important step by the adoption of a portable fork. This enabled them to bring into the field an arm 6 feet long and weighing about 15 lbs., which fired a 2-ounce bullet and had an effective range of 400 paces. This weapon soon became known as the musket (*i.e.* sparrow-hawk). Musketeers carried fifteen rounds of ammunition, the charges being in separate wooden cases hung from a bandoleer. Ten men per company of the Spanish shot at Pavia were armed with muskets, and helped to win the battle, for the unwonted penetration of their bullets disordered the ranks of the French men-at-arms. The Spaniards were broken up into small parties, which moved about rapidly, "donnant des tours et faisant des voltes de ça et de là, d'une part et d'autre."¹

Bayard had been killed by a harquebus ball the year before; and though firearms were less accurate than the crossbow, and took longer to load, French leaders soon found it best to adopt them for half their shot. Montluc helped to bring this about, though he regarded the harquebus as "the Devil's invention to make us murder one another," and wished to God that this accursed engine had never been invented. The French harque-

¹ Brantôme, i. 297.

buses were often light, taking bullets of less than an ounce in weight. Those that were of normal bore came to be distinguished as *arquebuses de calibre*, and were called in England calivers.¹

There were mounted harquebusiers in the army with which Charles VIII. invaded Italy in 1494. The use of firearms by mounted men increased, and as the lighted match was embarrassing on horseback, a wheel-lock which struck sparks was introduced for their benefit, though it was too expensive for general use. Wheel-lock pistols (so called because their bore corresponded to the coin) became a favourite weapon for cavalry by the middle of the sixteenth century. The proportion of horse to foot decreased, and the character of the horse changed. The "furnished lance"—the man-at-arms with his attendants—died out. The German heavy cavalry (*Reiters*) were mostly individual troopers, formed in very deep squadrons, sometimes of fifty ranks, and armed with pistols. They were supplemented by separate bodies of light horsemen armed with lance or harquebus. The Reiters wore armour proof against the harquebus, and this led Alva to raise the proportion of musketeers in a company to one-fourth of the shot; in time they became more than half.

The excellence of the Spanish infantry was generally recognised. La Noue held them up as an example to his countrymen for their subordination and good-fellowship, for the pains taken by the older soldiers to teach the young ones their duty, and for their strictness in regard to the wearing of armour.² Sir Roger Williams, who had served with them and against them, spoke of the careful selection of officers, and declared that "no army that ever I saw passes that of Duke de Parma for discipline and

¹ Grose, ii. 295.

² La Noue, p. 174.

good order." As for the race from which they sprang, he said it was well known that they were the basest and most cowardly of people: one Englishman was a match for three Spaniards. But practice had made them perfect. "Their state is governed with two sorts of people, captains and clergy. As the captains' ambition persuades the king to increase his wars to maintain their estate in wealth and greatness; so doth the clergy persuade him also to wars to maintain their state against them of religion. By this means the state of Spain during this government can never be without wars; continual wars must make expert soldiers,"¹ None but trained soldiers were brought into the field, their places in the Spanish garrisons being taken by recruits (*besonios*).

Williams's insular contempt for the raw material was unwarranted. The Spanish recruit, drawn chiefly from the more rugged provinces of the north, was hardy, temperate, patient of fatigue and privation, quick to learn the use of arms, and apt for all kinds of service under good leadership. He respected authority, but he was greedy of money, and mutinied if he was kept long without pay or plunder. But the main causes of the excellence of the Spanish infantry at this particular time are those which Williams indicated. The long struggle with the Moors had thrown the whole energy of the nation into a military channel, while intensifying its stress on creed. War was the only fit occupation for an hidalgo, unless he turned monk; and every one wished to pass for an hidalgo. There was a general distaste for trade and agriculture. The discovery of America opened fresh fields for adventure, and the gold that came from it made industry less imperative. Devotion to church and king had become a passion, and to serve in the wars was to serve both. The

¹ Williams, p. 11.

bond of comradeship was developed by prolonged service among alien peoples in Italy or the Low Countries, and also the bond of attachment to their officers. The officers were the pick of the nation, for men of the highest rank were proud to have the charge of a company of foot, and often preferred it to a cavalry command.

The battle of Mook (1574), though a small affair, showed the superiority of the Spaniards to the French and German mercenaries which the Nassau princes at first brought against them. Lewis of Nassau was trying to join his brother, William of Orange, with 6000 foot and 2000 horse when he was intercepted by Sancho d'Avila, who had only 4000 foot and less than 1000 horse. D'Avila attacked the Nassau army, though its front was covered by intrenchments, and its left rested on the Meuse; and after some hard fighting he completely routed it, killing the commander and half his men.¹ Next day the Spaniards mutinied, elected a chief according to their custom, marched to Antwerp and quartered themselves on the wealthiest citizens, until they received a sufficient instalment of the arrears of pay that were due to them.

With the best troops in Christendom, the widest dominions, and a stream of gold and silver flowing in from America it seems strange that Philip II. should have failed to crush the insurrection in the Low Countries, and that his failure should have been due to want of money. There is no better example of the extent to which industrial efficiency lies at the root of military efficiency. Industry of all kinds was despised and neglected in Spain, and trade suffered from Government restrictions. The treasure that came from the other side of the Atlantic soon found its way to other countries where it could be used as capital for production. It did little per-

¹ Mendoza, ii. 214, &c.

manent good to the Spaniards, and its abundance raised prices. The share of it that went into the king's coffers seems to have been under a million of ducats a year. When Alva left the Netherlands in 1573 the war was costing more than seven millions a year. His army numbered 62,000 men, but of these only 8000 were Spaniards, for the scanty population of the Peninsula could not bear the continuous drain upon it. Many provinces were exempt from service abroad, so that the burden fell mainly on Castile.

Even before war began in the Netherlands the expenditure was in excess of the revenue, and the loans raised by Philip and his father had mounted up to thirty-five millions, or about seven years' income. A third of the revenue came from the Low Countries, and was cut off by the war. Half of the provinces were lost to Spain, and the other half were ruined. Antwerp, the centre of the world's trade, and the richest city in Philip's dominions, was throttled by the Dutch and sacked by the Spaniards. It lost half its population, and its trade passed to Amsterdam, furnishing the United Provinces with fresh means of resistance, and helping the Dutch to gain a predominance at sea which ultimately secured their independence.

The burghers of Holland were even less able than German mercenaries to face Spanish troops in the field. But they could fight behind walls, and their cities, even if taken, cost the Spaniards losses which they could ill afford. Things looked black for the States in 1585, when William the Silent had been killed, Parma had retaken Antwerp, and Elizabeth was at length moved to intervene. Yet the Englishmen who went out with Leicester were astonished at the flourishing aspect of the United Provinces, the wealth of the cities, and the industry of the

people; while Parma was telling Philip that no language could describe the misery of the "reconciled provinces"—Artois, Hainault, and Flanders. Practice and regular pay soon raised the quality of the Dutch troops, and the methodical genius of Maurice of Nassau developed a mode of warfare in which the spade played a leading part, and formed a new school of tactics.

The bands or companies of hired soldiers raised by captains were combined into larger units under the "regiment" of a captain-general or colonel. The latter name at first denoted the body, not the chief, and seems to have been derived, like cornet, from "corno," a horn; for the wings sometimes protruded like horns.¹ Following the Spanish custom, the word was at first spelt coronell in England, and it is still pronounced accordingly. The strength and number of companies in a regiment varied widely. In 1526 Frundsberg formed a regiment of thirty-five companies with a total of 12,000 men; but ten companies of 300 men each was the normal strength of German regiments. The French and Spanish companies were smaller. Alva took with him to the Netherlands forty-nine companies of foot averaging 180 men each. They formed four *Tercios*, a name borrowed originally (according to Hexham and Lord Orrery) from the three divisions of an army—van, battle, and rear.

Regiments were administrative, not tactical units. The tactical unit was the battalion, a square or rectangle formed of the pikes of so many companies, drawn up side by side, with their shot variously disposed inside or outside. "When the enemy are superior in horse and we few or none, it is good to get the four fronts of the battle of equal resistance both to offend and defend,"

¹ Susane, i. 95, &c.

says an Irishman¹ who served with the Spaniards. Apprehension of cavalry caused a preference for large squares. When Charles V. marched against the Turks in 1532 his pikemen, numbering 70,000, are said to have been formed into three vast squares. At Dreux (1562) the 5000 Swiss of the Catholic army, "beset on all sides, but standing firm in a close order and doubled battalia"² (*i.e.* twice as many men in rank as in file), beat off the repeated charges of some 4000 Huguenot horse supported by harquebusiers, and shattered a regiment of lands-knechts. Their obstinate resistance allowed Guise with the other division of the Catholic army to win the day.

But large squares were slow and unwieldy, especially on broken ground; and they offered good targets for artillery, as was shown at St. Quentin (1557). La Noue argued that two squares of 2000 men supporting one another would be better able to cross open country in face of cavalry than a single square of 4000 men. The increasing numbers of shot, and the larger part they came to play, affected the question. Large hollow squares afforded them a better refuge when they were driven in, for by doubling the number of files of pikes the interior space was increased fourfold. But it took time to get a large number of men into and out of a square, and while they were inside they could be practically of no use; nor did a mere envelope of pikes offer the resistance of a solid body. It was found better to form the shot round the square as an "impale-ment" of three or four ranks, so that they could be sheltered from cavalry by the projecting pikes and could use their weapons. Small squares served better for this disposition than large ones, and placed chequerwise they formed "cross-battles," with space between them for baggage.

¹ Barry, p. 130.

² Davila, p. 82.

The proportion of shot in the infantry rose in the course of the century from one-fourth to three-fifths, even with well-organised troops like the Spaniards. In the Huguenot and Catholic levies of the French wars of religion it sometimes amounted to nine-tenths. Chiefs of experience, like Montluc and La Noue, opposed the current in vain. "Harquebusiers without pikes," said the latter, "are arms and legs without a body." Frenchmen generally disliked the pike and the corslet. As a French captain explained, "we have not such personable bodies as you Englishmen have to bear them; neither have we them at that commandment as you have; but are forced to hire other nations to supply our insufficiency."¹ As usual in civil wars, raids and surprises played a prominent part, and for such expeditions harquebusiers and light horsemen were best fitted.

Troops that were weak in pikes or heavy cavalry avoided pitched battles, and if they were forced to fight they sought, by choice of ground or use of intrenchments, to delay collision and develop fire-effect. This was especially the case in the Low Countries after the early defeats incurred by the princes of Nassau. If cavalry charges on flank or rear could be guarded against, the depth of formation might be reduced and the front broadened. The normal order of a battalion was a central body of pikes with sleeves or wings of shot, as with the men-at-arms and archers of the fourteenth century. The shot were thrown forward to skirmish as the enemy approached, and covered the front of the pikes, falling back on either hand when collision was imminent. If the units were large and the sleeves consequently wide, cavalry could break through them on a broad front. This was another reason for preferring small battalions, some of which could be held in reserve and brought up quickly.

¹ Scott, ii. 60.

Machiavelli at the beginning of the century had recommended battalions of 400 men, formed in three lines after the Roman fashion. Maurice, who was also a careful student of the Greek and Roman writers on tactics, came to much the same conclusion. Putting aside the notion of a square, large or small, he regulated the depth of his formation by what was needed for attack and defence. Ten ranks gave sufficient solidity to the pikes, and also suited the shot, as they gave sufficient time for reloading. "Our discipline of embattailing our army," wrote Lord Burgh in 1595, "is according to the Roman dizeniers, every tenth man knowing his place, and the soldiers distributed into lines after their tenths, who going before them bring them to their ranks. Our form is curious and ready; I would the exercise against our enemy might commend our order."¹ Count Lewis William of Nassau, stadtholder of Friesland, with whom Maurice discussed these questions, and who had written a work on the second Punic war, thought the new order too shallow; he preferred to follow the Emperor Leo, and form the infantry sixteen deep.

Events, however, justified Maurice. Hexham, who has given the best English description of the Low Country practice, says: "The fittest number of men to make a division of is accounted to be 500 pikes and musketeers, that is 25 files of pikes and 25 files of musketeers, or more or less of one or of the other as they fall out. This number being so embattled makes an agile body, and the best to be brought to fight, and two of them being joined near one another can best second and relieve each other, better than your great *phalanges*, which are unwieldy bodies."² The three divisions of the infantry (van, battle, and rear) each constituted a brigade, and each brigade

¹ Hatfield MSS., v. 283.

² Hexham, p. 19.

was formed in three lines, with a space of 100 yards between the first and second, and 200 yards between the second and third. The battalions of each line stood in echelon to those in front of them, and were single or in pairs according to the strength of the brigade. It had been the custom for the ranks of musketeers to relieve one another after firing by the countermarch of files, and the intervals between files were made wide enough for this. Maurice formed his musketeers into sections of about four files, with passage-ways between the sections, and made the men countermarch by ranks.

"The true rules of war," says a soldier trained in the Dutch school, "are never to fight but upon two occasions: the one being upon a great advantage, the other on a great necessity."¹ Regardless of sneers at "these digging moles whom with undeserved fame the spade hath raised,"² Maurice avoided battles; and his new order was first put to the test against his will. He had invested Nieuport (1600) when the Spaniards came up unexpectedly to its relief. The two armies were nearly equal in numbers, about 10,000 foot and 1500 horse. The *dunes* or sandhills east of the haven formed the central part of the position which Maurice took up. They had a width of about a quarter of a mile. On the left, between the dunes and the sea, there was a strip of shore which narrowed to 30 yards as the tide rose; and on the right there was a level space of 150 yards between the dunes and the field enclosures, known as the greenway. The position, therefore, had a front of less than half a mile, and the central part of it was unsuited to cavalry. This enabled Maurice to draw up his army with its three brigades, one behind another instead of side by side. The vanguard, commanded by Francis Vere, was in front; it consisted of

¹ Dalton, *ii*, 403.

² Hatfield MSS., v. 285.

1600 English (24 companies) and 2500 Frisians (17 companies). Two companies of Maurice's guards were added to it. According to the order of battle (as given by Hexham) the English were to form two pairs of battalions in front line, and the Frisians two pairs of battalions in second line, the latter being placed in echelon on the outer flanks. There was to be no third line, as the other brigades furnished reserves.

This symmetrical arrangement had to be modified to fit the ground. Vere describes the dunes as "so confusedly packed together, so brokenly and steeply, that the troops could neither well discover what was done a stone's cast before them, nor advance forward in any order, to second if need were."¹ He placed 300 men on a prominent hillock, and 200 on another which was 100 yards in rear of it and rather higher. These east and west hills were connected by saddles on the north and on the south. On the south saddle Vere posted 500 Frisian musketeers, to fire upon any horse that might advance along the greenway. On the north saddle he posted 700 of the English, so forming a cross-battle of 1700 men. The rest of the English (650) were placed on the sands in two battalions, and behind them, nearer to the sea, were the rest of the Frisians (2000) in two pairs of battalions, guarding a battery of six guns which swept the shore.

The archduke Albrecht who commanded the Spaniards tried first to push along the shore, but his cavalry was driven back by the fire of the battery. His chief reliance was upon his foot, so he turned towards the dunes, and his van attacked the troops posted on east hill. His pikemen were massed in four large squares of more than 1000 men each, one forming the van, two the centre, and

¹ Vere, p. 148.

one the rear. The centre battalions came up on the left of the van, and the rear on the left of the centre but were checked by the fire of the Frisian musketeers. There was an obstinate fight for the east hill. Vere called up all his English troops, but he was overmatched, and was not reinforced by the other brigades. He was wounded, and his men were driven down to the battery on the shore. A charge of cavalry checked the Spaniards in their pursuit and saved the guns. The English rallied and advanced again, and Maurice moved up the centre brigade upon their right. The reserve cavalry charged along the greenway, and routed the Spanish horse on that side. The heavy masses of the Spanish foot, disordered by prolonged fighting on broken ground, and wearied by a long march under a July sun, at length gave way. The admiral of Aragon, who was one of the prisoners taken, ascribed the victory to Maurice's judgment in placing his artillery and in husbanding his infantry and cavalry, instead of engaging them all at once, as the Spaniards did.

"If you intend to have a well-commanded army you must pay them punctually, and then your general can with justice punish them severely."¹ Regular pay and good administration, as against systematic neglect, was transferring to the Dutch the pre-eminence which had belonged to the Spaniards. Antonio Donato pronounced the States' soldiers to be the best in the world, and gave the first place to the English infantry, "best beloved by the natives; brave, patient veterans."² The war in the Low Countries was indeed, as some one wrote to Walsingham in 1585, "a school to breed up soldiers to defend the freedom of England, which through these long times

¹ Monk, p. 22.

² Motley, iv. 520.

of peace and quietness is brought into a most dangerous estate if it should be attempted."¹ The character of the English people is described by Meteren and Rohan much as it was described by Froissart two centuries before: they were stout-hearted and vehement, proud, cruel, and suspicious of strangers. But under the Tudors they had fallen behind other countries in military practice. There was no standing army, and the county militia (or trained bands) was worth little. In 1574 Elizabeth had occasion to intimate to one of the lord-lieutenants that "besides the lack of furniture of armour, Her Majesty also perceiveth that in the whole realm there is lack of men exercised and trained in feats of war, either to wear their armour, to use their weapons, to march in order, to do such things as be requisite";² and the case was no better at the time of the Armada.

When a force was raised for service abroad, the men were no longer as of old the retainers or tenantry of their leaders. The Tudors had done their best to destroy the feudal bond, and no badges were allowed but the St. George's cross. The companies for the Low Countries were raised largely by "press," in default of volunteers; the press was sometimes "so disorderly performed . . . that it is a grievance at home and a scandal abroad";³ and the better sort of the men pressed provided "paddy persons" as their substitutes. Leicester's muster-master complained to Walsingham of the bands sent out as raw, weak, ill-equipped, and ill-armed, and said that "if they should be carried to the field no better trained than yet they are, they would prove much more dangerous to their own leaders and companies than any ways serviceable on their enemies."⁴ The wastage from death, disease, and

¹ Scott, i. 379.

² *Ib.*, 350.

³ Dalton, i. 82.

⁴ Motley, i. 371.

desertion was very large, sometimes 75 per cent. in a year; yet these men with proper handling were turned into excellent soldiers.

Spears, bills, and bows were the English weapons for the greater part of the century. A few foreign harquebusiers, horse and foot, fought under Somerset at Pinkie (1547), and by degrees firearms superseded bows, and pikes superseded the shorter hand weapons. The best of the London trained bands had discarded the bow by 1559, and all of them had done so by 1588. In 1595 the Privy Council decided that it should be disused altogether by the regular trained bands throughout the country. It had its advocates, however, then and for long afterwards; foremost among them being Sir John Smythe, who had served under Alva and Montmorency, and disliked the new fashions brought over from the Low Countries.

He claimed for the bow that it was much lighter than the musket, and had a longer range and more accuracy than the harquebus or caliver, which was of no account beyond four score paces. It could shoot four or five times as fast, and was much less apt to fail or to get out of order in bad weather. Arrows made worse wounds than bullets, and many ranks of archers could shoot at one time, instead of two ranks only.

A more practical soldier, Sir Roger Williams, took the other side, resting his case on the musket rather than the harquebus. When men had been three months in the field, he said, not one in ten had strength enough to shoot much beyond a furlong. Bowmen were afraid of musketeers, and in shooting from cover they were much more exposed. Arrows hurt horses, but could not penetrate good armour, like the musket-ball. They could not be so readily supplied in the field as powder and bullets.

He considered that 500 musketeers would be of more use than 1500 archers.

"As for shooting four for one," says another writer, "there is no archer that can shoot two for one, if the *harquebuzier* be perfect and well trained."¹ This, however, seems to rest on a strange underestimate of what could be done with the bow, for he claims that with a *harquebus* he could fire forty shots an hour. For the *harquebus à croc* the rate of fire was even slower, twenty-five shots an hour; while a good archer could shoot ten arrows in a minute. But whatever we may think of the weight of argument on each side, the longbow went the way of the crossbow, and the English people lost a valuable asset. "When I was in the French king's service, amongst the old bands of footmen," says Barwick, "I did greatly commend the force of the longbow, but how was I answered: to be short even thus, 'Non, non, Anglois, vostre cause est bien salle, car dieu nous a donnés moyen de vous encountrer après un autre sorte que en temps passé.' . . . Now, saith he, the weakest of us are able to give greater wounds than the greatest and strongest archer you have."²

¹ Barwick, p. 17.

² *Ib.*, p. 14.

V

THE SEVENTEENTH CENTURY

THE Dutch war of independence was practically brought to an end by the truce of 1609. From its character and conditions, infantry had played the chief part in it, and the fire-action of infantry had been greatly developed. Cavalry had won some victories (*e.g.* Turnhout) and contributed to others, but it had nevertheless declined in numbers and in general estimation. In 1567, 6000 Swiss escorted Charles IX. from Meaux to Paris undeterred by the Huguenot horse which hung round them. Sir Roger Williams knew no reason why 2000 pikemen and 1000 musketeers should not be able to make good their retreat across ten miles of open country in spite of 3000 horsemen, however well equipped.¹ Gerard Barry, who served with the Spaniards, held that good cavalry "are not comparable to deal with resolute foot, except upon manifest and great advantages, and in place or ground of great favour for them."² Lord Wimbledon deplored the distaste which Englishmen had taken to service on horseback, for which their national character so well fitted them.³

When the twelve years' truce expired, and Maurice and Spinola again faced one another on the lower Rhine, the cavalry of the two armies numbered only 10,000 out of a total of 60,000. The war which was then resumed in the Low Countries, and went on till 1648, was of much

¹ Williams, p. 43.

² Barry, p. 135.

³ Dalton, ii. 329.

the same character as before, a war of sieges and intrenched positions. But it was now merely one section of the Thirty Years' war, the great collision between the Protestants of the north and the Catholics of the south, and the most eventful fighting took place elsewhere. The German war of religion was carried on largely by adventurers and mercenaries, who had no base, no system of supplies, but lived upon the country. For such soldiering mounted men were most fitted, because of their mobility; and for the same reason, the lighter classes of cavalry were preferable to the heaviest class. Full armour must be made intolerably heavy to be even pistol-proof, and if it was not proof the broken fragments of it made wounds worse. It wore out the horses, and if the riders were dismounted they were helpless. It was generally reduced, therefore, to back and breast plates, with a pot-helmet or skull-cap. Leather in the form of buff-coats and top-boots replaced arm-guards, thigh-pieces, greaves, and solerets of steel.

The lance was laid aside, and shock tactics were superseded by fire tactics. Cavalry charged at the trot, and when close to the enemy caracolled; that is to say, successive ranks fired, turned to the left, and filed off to the rear. Only when the enemy was shaken by this fire, did they push in and engage hand to hand. In dealing with infantry the carbineers or harquebusiers charged first, and the cuirassiers, if there were any, followed in support, to take advantage of any disorder which the others might cause.¹ They were armed with sword and pistols.

Dragoons (or dragooners), so named from their weapon, which was a short piece of musket calibre, now began to form a recognised part of an army. "The dragoons," says Ward,² "are no less than a foot company consisting of pikes and muskets, only for their quicker expedition they

¹ Ward, p. 317.

² *Ib.*, p. 294.

are mounted upon horses." Monk lays down that there should be a troop of dragooners to every regiment of horse. Sometimes the cavalry soldiers took up musketeers behind them, and Maurice (in 1603) had 3000 pack-saddles or "cushions" made, for two musketeers each. The causes which led to the introduction of mounted infantry, led also to the equipment of cavalry for fighting on foot, *e.g.* the "*mousquetaires*" of the guard of Louis XIII.

In the desultory fighting of the wars of religion light horsemen proved very useful; Croats and Hungarians (Hussars) trained on the Turkish frontier came to be in request elsewhere, and were even taken into the French service. Altogether it appears that in the middle of the Thirty Years' war nearly one-third of the soldiers who took part in it were mounted; on the battle-fields the proportion was larger, owing to the detachment of foot for garrison duties. At Freiburg in 1644 there were as many horse as foot on both sides. Montecuccoli put the mounted men at two-fifths of an army. Monk (who had served in the Low Countries, and wrote in 1646) was of much the same opinion: for the open field there should be two foot to one horseman, besides dragoons; but "where the service of your army shall be most in sieges," the proportion might be three or even four to one.¹ Rohan would have three to one for an open country, five to one for a close country.²

The proportion was four to one in the army which Gustavus Adolphus brought to Germany in 1630. Sweden was a poor country and horses were scarce. When the British Government talked of withdrawing its troops from the Peninsula in 1811, Wellington replied that the choice lay between fighting the French abroad or at home. Similarly it was in self-defence that

¹ Monk, p. 35.

² Rohan, p. 265.

Gustavus went to the aid of the German Protestants. If they were crushed by the Catholic powers his own turn would come next. As he wrote to Oxenstiern: "We must remove the seat of war to some other quarter than Sweden, for we are nowhere weaker than in Sweden."¹ His intention at first was to "clear the seaside" between the Elbe and the Oder, and make that country the base of his further operations. But success depended on his rallying to him the disheartened Protestant princes, and he found himself obliged to cut loose from his base and to plunge into Southern Germany. His achievements swelled his numbers. He had nearly 50,000 men under his immediate command at Nuremberg in 1632, besides garrisons and detachments; and more than one-third of his men were mounted. Mobility was essential for his method of warfare.

Gustavus was only thirty-five years of age when he came to Germany, but he had been fighting for his crown for half that term; and in Poland he had had to do with an enemy strong in cavalry, and a country which favoured its use. He had done his best to adapt horse, foot, and artillery to fighting under such conditions. His horse consisted of cuirassiers and dragoons. The latter were light cavalry capable of service on foot, rather than mounted infantry. The cuirassiers had breast-plates and head-pieces, but their equipment was otherwise light. They were armed with sword and pistols, and sometimes with the old Gothic weapon, the war-hammer. They were formed three deep, in squadrons of about 300 men. The caracole system of the German Reiters was discarded by Gustavus. Fire might be used to bewilder the enemy at the moment of collision, but horse and sword should settle the business. The men

¹ Geijer, p. 258.

of the first rank, or first and second ranks, might discharge one of their pistols when they were near enough to see the whites of their enemies' eyes, but must then draw swords and close, and the charge was made at speed.

In order that they might act upon these rules, and yet not forfeit the support of firearms, detachments of musketeers were posted in the intervals between the squadrons. At Leipzig we are told: "The horsemen on both wings charged furiously one another, our horsemen with a resolution abiding unloosing a pistol till the enemy had discharged first, and then at a near distance our musketeers meeting them with a salvo; then our horsemen discharged their pistols, and then charged through them with swords; and at their return the musketeers were ready again to give the second salvo of musket amongst them."¹

The Swedish infantry was raised by compulsory levy. The nobility and their personal servants were exempt from service on foot. From the rest of the population one man in ten was chosen, "fresh and sound, strong of limb, and, so far as can be discerned, courageous, in years from eighteen to thirty and upwards."² As the whole population was less than a million and a half, a levy yielded under 15,000 men. The native contingent had to be supplemented by foreign recruits, and half of the infantry which Gustavus took to Germany consisted of Scots and Germans. His revenues were insufficient for the maintenance of his army, but he received subsidies from England, France, and Holland; and in course of time so much was brought in by local requisitions that war became the chief industry of the State.

The Swedish foot, if few in numbers, was of excellent

¹ Monro, p. 65.

² Geijer, p. 224.

quality. It was drawn chiefly from a thriving and sturdy peasantry, staunchly Protestant, and bound to its king by a century of conflict with foreign princes and the privileged orders of Sweden. Gustavus was a happy compound of impetuosity and shrewdness, originality and sound judgment. He neglected nothing, great or small, that had to do with the efficiency of his troops, and was not more distinguished as a leader than he was as an organiser. His Polish experience led him to adopt a new tactical formation for his infantry, a modification of the Dutch order. His battalions consisted of four companies with a normal strength of 54 pikemen and 72 musketeers, but one-third of the musketeers were detached, either to guard the baggage or for other employment. He was content with six ranks instead of ten, and his battalions had, therefore, 36 files of pikes and 32 files of musketeers, making 408 men in all.¹

Instead of being coupled as they were by Maurice, the battalions were grouped by threes into brigades, the middle one being pushed forward a little beyond the alignment of the other two, so that they made three limbs of a cross. The musketeers took post according to circumstances in front, in rear, or on the flanks. The brigades were drawn up in two lines, and those of the second line could readily move up into or through the intervals of the first line, which were equal to the frontage of the pikes of a brigade (108 yards). This wedge-like formation of the brigades, a sort of combination of line and column, helped them both in attack and defence; and at the same time it facilitated the prompt extension and retirement of the musketeers. The author of "the Swedish Discipline" (1632) claims for it that one part so fences, so backs, so flanks another, is so ready to

¹ Swedish Discipline, pp. 79. &c.

second or relieve another, that though the men may indeed be killed, very hardly shall the whole order be routed.

The number of companies in a regiment was raised from eight to twelve in order that the battalions of one regiment might form a brigade. But the wastage in the course of a campaign often made this impracticable; the Scots brigade which fought at Leipzig was made up of four regiments. Clothing was not uniform,¹ but coloured scarves or badges were used to distinguish regiments from one another. Besides the "commanded" musketeers, *i.e.* the men detached from their battalions, there were some regiments which consisted exclusively of musketeers. These usually marched in the vanguard and were specially employed on expeditions. Taking them into account, the musketeers formed two-thirds of the Swedish infantry.

By adopting a musket rather lighter than the Spanish one, with a calibre of 12 bullets to the pound, Gustavus was able to dispense with the fork. In the Polish war he had provided his men with "Swedish feathers," iron-pointed stakes which served as a rest for the musket and a fence against horsemen, like the stakes of the archers; but he discarded them in Germany, where his movements were rapid. For bandoleers and charge-cases he substituted pouches and paper-cartridges, which allowed of quicker loading.

To render his artillery more effective and more mobile, he made his guns shorter and adopted cartridges and case-shot. In 1626 he introduced the so-called leather guns, 4-pounders (or less) which weighed only 1 cwt., and could be handled by two men. They had copper barrels reinforced with iron hoops and rope, and an outer

¹ Geijer, p. 229.

skin of leather. Five years afterwards he replaced them by iron guns which were heavier but would bear a larger charge. These pieces weighed about 5 cwt.; two of them were attached to each regiment of infantry, and they could fire three shots while a musketeer fired two.¹

The battle of Breitenfeld or Leipzig (1631) was won mainly by the Swedish cavalry and artillery; the infantry of the first line were hardly engaged. The Saxons, who formed the left half of the Protestant army, were worsted by the Imperialist horse, and Tilly followed up the success with his infantry. Having routed the Saxons, he fell on the left flank of the Swedes. To hold him in check, Gustavus sent a regiment of cavalry, and two brigades of foot from his second line. They drove off the Croats and engaged the Imperialist infantry. The encounter is described by Lieut.-Colonel Muschamp, who commanded the musketeers of a Scottish regiment: "First giving fire unto three little field pieces that I had before me, I suffered not my musketeers to give their volleys till I came within pistol-shot of the enemy; at which time I gave order to the three first ranks to discharge at once, and after them the other three; which done we fell pell-mell into their ranks, knocking them down with the stock of the musket and our swords."²

Meanwhile on the other wing the Swedish cavalry under Gustavus himself drove Pappenheim's horse off the field: "The enemy being fierce and furious, while as ours were stout and slow, the enemy was made weary when ours were fresh."³ Tilly's guns, which were on high ground behind his original line of battle, were taken, and

¹ *Précis des campagnes de Gustave Adolphe* (Brussels, 1887). This book contains a useful list of works dealing with these campaigns, and with subsequent wars down to the present day.

² Swedish Discipline, p. 24.

³ *Monro*, p. 69.

were turned upon his own troops. Gustavus fell upon their rear, and the Imperialists broke and fled.

Elsewhere, as here, we find the musketeers engaging freely in hand-to-hand fighting without the aid of pikes. In the storming of Frankfort-on-the-Oder fifty musketeers were the first to enter the town; they were charged by horse, but with their backs against a wall drove them off by volleys. In the desperate fighting which took place when Gustavus attacked the camp of Wallenstein near Nuremberg, the musketeers had the chief part. The rapid strokes by which Gustavus effected so much were actually made with cavalry and musketeers alone.

The special brigade-formation described above was hardly put to the test until his final victory at Lützen (1632). There the Swedish infantry attacked the big battalions of the Imperialists, not (as at Leipzig) in some disorder, but in a well-prepared position. It was the counterpart of Nieuport, and showed the advantage of small units for attack no less than for defence. Wallenstein's infantry was formed in squares of about 3000 men with bands of musketeers at the angles. Four of these squares were drawn up as a cross in the centre; the fifth was with the cavalry of the right wing. There was a battery of seven guns in front of the centre, and one of fourteen guns near some windmills on the right. In front of the batteries ran the road from Lützen to Leipzig; its ditches had been deepened and were manned by a double line of musketeers. The garden walls of Lützen were also held by musketeers, and covered the right of the Imperialists; while their left rested on the Flossgraben, which was fordable but had high banks.¹

¹ See Colonel Stammfort's plan, attached to the French translation of Gualdo's History (Berlin, 1772).

These obstacles on the flanks hampered the Swedish cavalry, and the infantry was ordered forward without waiting, as usual, for the defeat of the enemy's horse on the two wings. There were four brigades in first line and four in second line, making a total of about 10,000 men. The centre battalion of each brigade, the point of the wedge, seems at Lützen to have been twice as strong as the flank battalions. The companies were much below their normal strength, but there were about sixteen of them in each brigade. Crossing the road, three brigades of the first line seized the seven-gun battery, and then fell upon the leading square of the Imperial foot and upon the one which stood on its left rear. Both these heavy masses were shaken and disordered, though in numbers they were nearly twice as strong as their assailants.

The fourth brigade of the Swedish first line consisted of German troops under Bernhard of Saxe-Weimar. It was not able to keep pace with its fellows, being checked by the guns of the windmill battery and a convergent fire of musketry. The cavalry to the left of it was also checked; and Piccolomini's cuirassiers found themselves free to go to the help of the shaken infantry in the centre. Charged by cavalry and attacked by the two other squares of foot, the three Swedish brigades, reduced by this time to about one-fourth of their strength, were driven back across the road. It was in hastening to remedy this reverse that Gustavus was killed. He had been leading the cavalry of his right wing, which had met with some success but was now obliged to retire.

The advantage lay with the Imperialists, but Wallenstein's unwieldy bodies confined themselves to a passive defence, and allowed Bernhard (who succeeded to the command of the Swedish army) to make his preparations

for another attack. The weakened first line of infantry was reinforced by two brigades from the second line, and was supported by the other two brigades and by four squadrons of horse. The second advance met with success both on the wings and in the centre. The arrival of Pappenheim with eight regiments of horse threatened to turn the scale once more in favour of the Imperialists; but he was killed, and by nightfall Wallenstein's army was in full retreat, leaving 6000 men on the field. The Swedish victory is said to have been largely due to Kniphausen's handling of the two reserve brigades, "doing no more with them than fair and softly advance them towards the enemy at such time as he saw the brigades of the van to get any ground of them. The distance of his rear from the front was about 600 paces, and at that scantling he still kept himself behind the other."¹ This gave confidence to the fighting line; and at length he brought up his brigades into it, to meet the final effort of the Imperialists to keep their hold of the windmills.

It would be difficult to point to any three campaigns which have made such a mark on the art of war as those of Gustavus in Germany. He united the merits of his two predecessors, Maurice of Nassau and Henri IV. The excellent organisation of all arms, the skill with which they were combined, the boldness of his conceptions, the admirable discipline which he maintained, the masterly handling of his troops on the field of battle, set a new standard for the conduct of armies. The Scot, Monro, waxes eloquent in his praise, and gives us a vivid picture of his personality: ever impatient when works were not advanced to his mind; misliking an officer that was not as capable of understanding his directions as he was ready

¹ *Swedish Intelligencer* (1633), part 3, p. 147.

in giving them, yet always making sure that they were understood; always able to do himself what he ordered to be done; of wonderful judgment in the "point of recognoscing," and thinking nothing of this kind could be well done which he did not himself; careful of the health of his men, and gaining his officers' love by sharing their labours and dangers.

The reputation of the Swedes survived Gustavus. Under Baner and Torstenson they continued to show themselves more than a match for the Imperialists. The campaigns of Charles Gustavus in Poland and Denmark (1656-59) gave fresh proof of their excellence; and the astonishing career of Charles XII. was due to the quality of the troops which he found ready to his hand. He was himself pre-eminent in courage and fortitude, but his reckless demands of men and money exhausted his country. No population could stand a continuous drain of 5 per cent. for the army. Discontent weakened the royal authority, and in the eighteenth century Sweden became less military as she became more republican.

The wedge-shaped brigade of Gustavus soon dropped out of use, for the massive formations against which it was directed were abandoned before the middle of the seventeenth century. Linear formations became general, though the size of units and width of intervals varied. France succeeded Sweden as the leading power in the coalition against the house of Habsburg, and many soldiers trained in the Swedish discipline were brought into the French service by Richelieu. One of the first of these was Sir John Hepburn, who formed a regiment (Hebron) out of the remains of the Scottish regiments which had fought under Gustavus. It passed into the British service on the restoration of Charles II., and

survives with an unmatched record of service as the Royal Scots. Richelieu's subsidies enabled Bernhard of Saxe-Weimar to conquer Alsace, and at his death in 1639 his troops passed into French pay and served under a French commander.

Louis XIV. found at his accession 139 regiments of foot, of which 20 were foreign. Of the native regiments those formed out of the "old bands"—Picardie, Piémont, and some others—were good, but the rest were not to be depended on. "Men were enlisted by force," says Sully, "and made to march by the stick. Their pay was wrongfully kept back, they were continually threatened with prison, and the gallows were ever before their eyes." They shrank from service abroad, and it was difficult to persuade them to cross the Rhine. The men deserted, and the officers complained of the hardships of campaigning.¹ Rohan, it is true, showed in the Valtelline how much might be done with French infantry in a kind of warfare which suited them; but in the line of battle they were apt to prove unsteady (*e.g.* Marfée, 1641).

Rocroy (1643), the first great victory won by the French over a foreign enemy for nearly a century, was won by the skilful handling of the cavalry and the *coup d'œil* of their leader; the defeated infantry acquitted themselves more creditably than the infantry of the winning side. The latter began to give way as soon as the cavalry on their left were beaten. The word went round—"La journée est perdue! en retraite!" The rearward movement was only stopped by the vigorous efforts of Sirot, who commanded the reserve. Meanwhile Enghien (afterwards Condé) had routed the Spanish left and fell on the rear of their infantry. But when all other units

¹ Bourelly, i. 54, 66.

had been broken up and driven off the field, five Spanish regiments of foot stood their ground. Drawn up in an oblong of 6000 men enclosing their guns they beat off three attacks, and it was only when their gun-ammunition was exhausted that a fourth attack, prepared by artillery and made by horse and foot in concert upon three sides, proved successful. Three-fourths of the Spaniards were killed or wounded, and if their sun set, it set gloriously at Rocroy.¹

The French owed much to the Dutch school as well as to the Swedes. Many of their best officers came from it. Turenne served a five years' apprenticeship under his uncle, Frederick Henry, and learned the art of sieges before Bois le Duc. The Dutch exercises were adopted in France early in the reign of Louis XIII. The normal strength of French regiments was twenty companies of fifty men each, one regiment forming one battalion, but there were wide variations. Two-thirds of the men were musketeers, some of whom were detached to support the cavalry. According to the elder Puységur,² a battalion of 800 men six deep required rather more than 100 paces of front. If it were stronger the depth of the files should be increased, not the frontage. The intervals between battalions should be equal to their front, so that first line and second line could pass through one another without hindrance. The second line should be 300 to 400 paces from the first, and the reserve 600 to 700 paces from the second.

In England, when the civil war broke out, there were no regular troops except a few small garrisons. The militia or "trained bands," which were relied upon for home defence, were raw recruits unwilling to serve out-

¹ Aumale, iv. 79, &c.

² *Instructions militaires* (1659).

side their own counties; and with the exception of the London trained bands they played a small part in the war. On both sides regiments of volunteers were raised, and there was a great demand for officers of some military experience to lead them. Many Scots who had served in Germany were employed, though, as Clarendon remarks, "it was no easy thing to value that people at the rate they did set upon themselves." Of the English leaders, Essex and Waller, Goring and Hopton had seen something of war, mostly in the Low Countries; and this was the case also with Monk and with the major-generals of the armies, Astley and Skippon, who were well versed in the practice of the Nassau school.

As usual in civil wars, discipline was slack at first and the foot was not of high quality. It was thought a wonder that the City trained bands should beat off Rupert's horse on Newbury Heath. Newcastle's white-coats showed remarkable tenacity at Marston Moor, and so did the Welshmen at Naseby. On the whole the Royalist foot was better than the Parliamentary foot. Colonel Slingsby describes how his regiment repulsed three charges of horse at Cheriton (March 23, 1643): "The foot keeping their ground in a close body, not firing till within two pikes' length, and then three ranks at a time, after turning up the butt end of their muskets, charging their pikes, and standing close, preserved themselves and slew many of the enemy."¹

It was cavalry that played the decisive part in the battles of the civil war. Here also the Royalists had the advantage, until Cromwell's rare capacity as an organiser and leader of horse made itself felt. He alone, according to Clarendon, knew how to make his men charge home without letting them get out of hand; and after driving

¹ Hopton, p. 102.

the enemy's cavalry off the field he fell on the flank or rear of their infantry. His Ironsides charged in close order at a "round trot," and "disputed it with sword and pistol" till they found a gap by which they could break into the squadrons opposed to them. Rupert, who had served with the Swedes, caused the Royalists to adopt Swedish tactics, including the "interlining" of the horse with platoons of musketeers, and the reserving of the horsemen's own fire that there might be no check to their speed. On both sides the Swedish practice of drawing up cavalry in three ranks and infantry in six ranks was generally followed. Both sides made use of dragoons.

The Parliament had much more command of money than the king, and its troops were better paid and equipped than the Cavaliers. It was believed at first that the king would be unable to raise an army at all; but owing to local and personal jealousies the war went on for three years without decisive result. In 1645 Parliament framed the new model army to be wholly at its own disposal. It was to number 22,000 men, viz. eleven regiments of horse (6600), one regiment of dragoons (1000), and twelve regiments of foot (14,400). The foot regiments consisted of twelve companies of 100 men, of whom two-thirds were musketeers and one-third pikes. Hitherto clothing had been of various colours, but in the new model army horse and foot alike wore red, the several regiments being distinguished by facings. The officers were carefully selected by Fairfax, the commander, and Skippon, his major-general. Recruits were readily found for the horse, but the pay of a foot soldier was only one-third of the pay of a trooper, and impressment had to be employed to fill the ranks of the infantry regiments.¹

The cost of the army was about £700,000 a year; it was

¹ Firth, pp. 34, &c.

assessed upon the counties which were best able to bear it, and the men received their pay with comparative punctuality. As in the Low Countries at the beginning of the century, regular pay brought order and discipline, and decisive success soon followed. After defeating the king at Naseby, Fairfax conquered the west, which welcomed relief from Cavalier exactions, and in fifteen months of continuous campaigning he brought the war to an end. Local corps were disbanded or incorporated in the new model, which by 1649 had grown to 44,000 men, and cost a million and a half. In Cromwell's hands it became a most formidable instrument for use at home or abroad, as was proved in Scotland, Ireland, and the Low Countries.

The Scots had shown themselves more than a match for Charles I. in the Bishops' wars, and as allies of the Parliament they had done their full share of the work at Marston Moor. But at Dunbar (1650) they were routed by Cromwell with an army of half their strength, an army weakened by hardships and exposure. The victory was largely due to the carelessness of the Scots, and the skill with which Cromwell threw himself unexpectedly upon their right wing, attacking it both in front and in flank. But even this would not have led to such decisive results if the English had not been the better men, both horse and foot. An eye-witness says: "I never beheld a more terrible charge of foot than was given by our army, our foot alone making the Scots foot give ground for three-quarters of a mile together."¹ The Scottish losses in killed, wounded, and prisoners exceeded the numbers of the English army.

When there were no more enemies to be subdued within the British Isles the army was still maintained to uphold an unstable government of its own creation. France and

¹ Firth, *Trans. R. Hist. Soc.*, xiv. 44.

Spain bid against one another for its services, and Cromwell chose alliance with France. At the battle of the Dunes (1658) Turenne's army included nearly 6000 English foot, while three battalions of Royalists (mainly Irish) were on the opposite side.¹ The seven English regiments (in two lines) formed the left of Turenne's infantry, and as the army advanced towards the enemy they got ahead of the right. In front of them there were four battalions of old Spanish foot holding a dominant and outlying sandhill, and on the left of these were the Royalists. Turenne says:—

“The English who were in the left wing, coming the first to that Down which was foremost, ascended with two battalions to attack it, and for some time they crossed pikes with the Spaniards; but the great resolution of the former, aided by a detachment of foot from the English main body which came upon the enemy in flank, put a Spanish regiment into disorder, and soon after to flight.”²

The Duke of York (afterwards James II.), who was in command of the Royalists, was sent to reinforce the Spaniards on the sandhill, and was an admiring witness of the English attack. He says in his Memoirs: “They advanced with a great deal of confident courage, but with so much heat that they left the French a good way behind, and might have paid dearly for their temerity, if a right use had been made of their imprudence. . . . It was Lockhart's regiment which charged Boniface's Spaniards; Fenwick, who was lieutenant-colonel of it, being got to the foot of the sandhill, and finding it very steep, made a halt to give his troops time to breathe, in order to ascend afterwards with more vigour. While they were thus preparing themselves, their forlorn hope opening to the right and left, to make room for them to mount the sandhill,

¹ Firth, *Trans. R. Hist. Soc.*, xvii. 67–86.

² Ramsay, ii. 188.

made an unintermitted fire upon Boniface; and the moment the regiment moved to the attack they gave a great shout. Though the lieutenant-colonel received immediately a musket-shot through the body, which made him drop, yet the major, one Hinton, led on the battalion, which made no stop till they were within a pike's length; and notwithstanding the vigorous resistance of the Spaniards, who had the advantage of the upper ground, and were fresh, whereas the English were fatigued and almost out of breath with climbing the sandhills, Boniface was driven down. . . ."¹

This success was followed up and the other regiments of the Spanish army gave way in succession. The Royalists lost more than half their number. The English claimed that they won the battle by themselves;² they at all events played the leading part in it, as Vere's men had done at Nieuport. The English regiments were specially raised for service abroad, but they consisted largely of old soldiers. Half of the men were pikes, and half musketeers; 400 "firelocks" are also mentioned as taking part in the attack of the sandhill.

In 1668, after the peace of Aix-la-Chapelle, Louvois set to work to organise, unify, and discipline the French army. It had grown in numbers, and by 1672 it amounted to 155,000 men, of whom 28,000 were cavalry. Its fundamental fault was the purchase system, which prevailed in France and elsewhere. Commissions were bought and sold, and were in fact contracts granted to the nobility to supply, feed, and equip men at fixed rates. The men were neglected and the State defrauded. Louvois could not do away with this system, but he took measures to guard against its abuses. By strict

¹ Ramsay, ii. 501.

² Clarke Papers, iii. 158.

inspection and heavy penalties he put down *passe-volants*—sham soldiers presented at musters—insisted on proper clothing, arms, and equipment, and gradually brought about the adoption of uniform. The king's fondness for reviewing his troops and the emulation of the colonels contributed to this change, which was also found to be a help in maintaining discipline and checking desertion. The disuse of armour had something to do with it. "The French temperament," says Feuquières, "does not accord well with the use of defensive armour," and corslets were given up by the French pikemen before the middle of the seventeenth century.¹

A model regiment, the Regiment du Roi, was formed in 1662, and its lieutenant-colonel, Martinet, was made inspector-general of infantry in 1668, with sub-inspectors under him. In the instructions given to him Louvois said: "It is not enough that companies should be up to their strength, we must try to make them consist of men who are fit for service as regards their age, their clothing, and their arms. . . . We must not demand of the officers that all the men shall be dressed alike, or in clothes equally new; that would be asking too much; but on no account must it be permitted that their soldiers should be ill-shod or ill-clad, or that their arms should be unserviceable, whether from the calibre or the quality of the muskets."² Their drill and exercises were to be watched. The maintenance of discipline and subordination among the officers also fell within the province of the inspectors.

By the creation of infantry brigadiers, of whom Martinet was one of the first, the charge of brigades was withdrawn from the colonels who might happen to be the seniors, and given to specially selected men; and at the same time a way was opened by which capable officers who had

¹ Susane, i. 190.

² Rousset, i. 208.

not the means to purchase a regiment might be advanced to higher commands. The stress laid on reviews led to improvements in drill. The troops were taught to take new formations simultaneously by word of command, instead of being placed in them successively by the sergeant-major. Drill instructors rose in estimation, but sometimes indulged in pedantries; and the rigidity imposed by them discouraged individualism, and led to the discontinuance of infantry skirmishing.

The successes of Louis XIV. in the latter half of the seventeenth century were largely due to the increased efficiency of his troops, but even more to Louvois's organisation of magazines, and the care he bestowed on the supply services. As Lord Orrery wrote in 1676: "The French with great prudence attack places in the beginning of the spring, when there is no army to relieve them; and in the summer, when the whole confederacy is in the field, they are usually on the defensive, and cover what they have took; and in my weak judgment they do at least as much by their always providing well to eat, and by their intrenched encampings, as by their good fighting, which unquestionless is the most hopeful and most solid way of making war."¹

This method was the more successful owing to the cautious tactics which began to find favour generally, each side seeking to guard against defeat instead of bidding for victory. The Swedish leaders, confident in the excellence of their men, had liked to put their fortune to the touch, and to fight battles even with odds against them; but it became the rule for the weaker side to look out for strong defensive positions, and only attack the enemy if he could be taken at great disadvantage. The state of the country, especially

¹ Orrery, p. 139.

in South Germany—the hills, woods, and swamps—made it easy to choose such positions, which could be quickly fortified, and could not be stormed without heavy loss; while the bad roads and difficulties of supply made it a slow business to turn them. Enghien's impetuosity made him fling himself against intrenched positions at Freiburg (1644) and Allerheim (1645), but the results were not encouraging. The risk of failure was great, and the fruit of victory was small.

One recommendation of this war of positions was that an army gained strength as it fell back, and lost strength as it advanced. Enghien and Turenne had 28,000 men when they united on the Rhine in July 1645. They had only 17,000 when they attacked Mercy at Allerheim a month later; by that time his numbers were nearly equal to theirs, and he was very strongly posted. In 1653 Turenne paralysed an army much stronger than his own by shifting from one position to another. In 1674, when he had failed in his attack on the Imperialists at Enzheim, and reinforcements had brought their numbers up to more than twice his own, he placed himself on ground where they did not venture to attack him, and hindered them from doing anything else. He had learnt, as he said, method and secrecy from his uncle, the Prince of Orange; and from Bernhard of Saxe-Weimar he had learnt to do great things with small means, and not let his head be turned by success.¹

The memoirs of Montecuccoli, the able opponent of Turenne, give us the reasoned views of a soldier who had seen varied service, against the Turks as well as against the Swedes. Linear formations for the infantry are assumed as a matter of course, but not the small tactical units and the open spacing of Maurice or Gus-

¹ Malo, p. 22.

tavus. A regiment forms one battalion of 1500 men, of whom one-third should be pikes. If drawn up six deep there would be long wings of musketeers, through which the enemy's cavalry might force their way on a broad front. The battalion is therefore formed ten deep, the six ranks of pikes in the centre having two ranks of musketeers in front of them, and two in rear of them. Of the ranks in front of the pikes one should be armed with swords and bucklers instead of muskets. Assuming that one-sixth of the musketeers are detached, and allowing a pace and a half for each file, the frontage of the battalion is 192 paces; the interval between battalions is 18 paces. A force of 24,000 infantry drawn up on these principles, with six battalions in first line, six in second line, and four in reserve, would occupy only 1400 paces. To these he would add 12,000 cavalry, 2000 dragoons, and 2000 light horse, making an army of 40,000 men, of whom two-fifths would be mounted. The horsemen should be mainly on the wings, but infantry, cavalry, and artillery should be so joined together or intermixed that they could afford mutual succour when needed. The front of the whole army would be about two miles.

The leading idea of Montecuccoli's order of battle is resistance. "The secret of success," he says, "is to have a solid body so firm and impenetrable that wherever it is or wherever it may go, it shall bring the enemy to a stand like a mobile bastion, and shall be self-defensive."¹ He would only invite a battle where the chances of success are great, or where the enemy has much to gain by avoiding it. In a strong position and with guns well placed for effect he would prefer to await the enemy's onset; but on level ground it is more inspiring to be the assailant. In

¹ Montecuccoli, p. 223.

advancing, the intervals must be strictly maintained, and a continuous fire must be kept up. If the enemy gives way he should be pursued by the light horse, and by detachments told off for the purpose, but the order of battle must not be broken. There must be no caracolliug by the cavalry, but the front rank should have musketoon.

Montecuccoli's stress on solidity was no doubt mainly due to his experience against the Turks, an enemy superior in numbers and mobility who were to be beaten only by order and discipline. In his "Maxims applied to warfare against the Turk in Hungary" he describes the characteristics of the Turkish armies. Their despotic government, their incessant wars, the high rewards (here and hereafter) for military merit, and the rigorous punishments combine to produce good leaders and good troops. The men are brave, obedient, sober, and abstemious; they are healthy and capable of great exertions. War being the only business they esteem there is no lack of recruits, and they can form very large armies. They have well-filled magazines, so that they can subsist in wasted lands, and they carry with them a prodigious quantity of baggage; but they do not begin a campaign till the crops are forward enough to provide forage. They make the peasants of the country furnish them with transport and with pioneers. They all have tents, and there is a swarm of camp-followers and attendants, so that the soldiers have nothing to do but to fight.

They like to make their wars short and sharp. They court decisive battles in the open field, and having their troops always ready they invade the enemy's territory at once. On the battle-field they use their large numbers to envelop the enemy, forming in long lines curved like a crescent, infantry in the centre, cavalry on the wings.

They detach parties to work round to the rear, reach the enemy's baggage and cause disorder. They advance to the attack with formidable shouts, fall back and advance again, trying by every means to loosen the order of the troops opposed to them, and to find gaps into which they may penetrate.

But they have defects of which advantage may be taken. They understand little about fortification or the handling of artillery, and are very inferior to the Imperialists in accuracy of drill. Their horsemen have coats of mail and shields, but not cuirasses; their agility is marvellous, but they cannot sustain the shock of a squadron in heavy armour and close order. Their arms are lances, scimitars, maces and battle-axes, together with fire-arms, bows or darts. Their horses and elephants may be scared by grenades, and by the fire of small guns discharged as one advances. Their best infantry, the Janissaries, are armed with sabres and long muskets of rather small bore; they have greater range and penetration than the muskets of the Imperialists, but are less accurate, as the men do not use forks. They have no pikes, and so cannot stand the shock of heavy cavalry or of infantry with pikes.

The Janissaries (Yani chari, or new soldiery) were mainly drawn from the Christian population. A tribute of one male child in ten was exacted. The boys were taken from their parents at the age of ten or twelve, made into Musulmans, lodged in barracks at Constantinople and other cities, and trained for seven years before they were drafted into the army. Their devotion to the Sultan and to the cause of Islam surpassed that of the Turks.

In the last decade of the century France fought single-handed in the Netherlands against Dutch and English, Germans, Danes, and Spaniards. It was mainly a war of positions and sieges; but Luxemburg, who was a better

tactician than William III., won three victories in the field—Fleurus, Steenkerque, and Neerwinden (or Landen). He owed them chiefly to his cavalry, which was more numerous and better than that of the allies. The French infantry was still inferior. At Fleurus (1690) it is said that "the French horse were forced to rally their foot several times and to bring them up under their covert." Luxemburg was amazed at the tenacity of the Dutch infantry when they were overmatched and enveloped. "The *French* infantry," we are told, "could not so much as dare look them in the face; could the Dutch be left alone to them, they would esteem them as nothing."¹

In 1691 Louis XIV. sent Luxemburg instructions to make use of the cavalry rather than engage in an infantry fight, "which involves heavy loss and is never decisive;" and in reporting his victory at Steenkerque (1692) Luxemburg explained that he had been forced by circumstances in that case to depart from these instructions. This battle was brought on by an ill-managed attempt at surprise on the part of the allies. Their vanguard, consisting of English and Danish infantry, found itself engaged with an increasing proportion of the French army. It was scantily supported, and after some success it was obliged to retreat with a loss of nearly half its men. At Neerwinden (1693) the French were 80,000, the allies 50,000. William's confidence in his infantry and his weakness in cavalry led him to stand his ground and intrench his position. Luxemburg's skilful tactics converted odds of three to two into odds of three to one at the decisive point. The French infantry stormed the villages on which the right of the allies rested, and opened the way for their cavalry into the heart of the position. Apart from their advantage in numbers, the

¹ Sawle, p. 8.

infantry were here employed by Luxemburg in a kind of fighting for which they had special aptitude. Their dash in attack and their alertness to seize opportunities found scope in affairs of posts; but when lines came in collision in the open field the "close and punctual fire" of the allied battalions was too much for them.

It was in Italy, under the leadership of Catinat and against Piedmontese, Spaniards, and Imperialists, that they showed to most advantage. After the victory of Marsaglia (1693) Catinat wrote to the king: "I believe there never was an action which showed better what your majesty's infantry is capable of."¹ They came on hardily with fixed bayonets, drove off the squadrons which Prince Eugene of Savoy had intermixed with his foot, and held their own against the foot until the defeat of the allied cavalry on the wings caused Eugene to retreat. It is said to have been the experience of the French in Italy that led them to abandon the pike a few years afterwards.² Pikemen were ill-suited to operations in the Alpine valleys, and the musketeers learned to do without them.

¹ Catinat, ii. 237.

² Saxe, *Réveries*, chap. 7.

VI

THE EIGHTEENTH CENTURY: I

IN the course of the seventeenth century the firelock was gradually superseding the matchlock as an infantry weapon. The earliest form of firelock, the wheel-lock, was expensive, and was also found to be "too curious and too soon distempered with an ignorant hand."¹ It made way for the snaphance (Schnapphahn or snapcock²) in which a spark was struck by flint and steel, and which came to be known, therefore, as the fusil. Adopted in the first instance for fowling-pieces, it was soon turned to military use, especially for mounted men. Monk, writing in 1646, recommended it for picked shots in the infantry, as well as for cavalry and dragoons; and in 1660, when he was commander-in-chief, he ordered the matchlocks of his regiment, the Coldstream, to be exchanged for "snaphance muskets." In France, Louvois at first set his face against fusils for the infantry, and ordered his inspectors to break up any they found, and replace them with matchlocks at the cost of the captains. But in 1670 a small proportion was allowed, and in the following year a regiment of fusiliers was formed to serve as guards for the artillery.

On behalf of the matchlock it was said that "firelocks are apter to misgive than muskets through the defect of

¹ Scott, ii. 285.

² It is a doubtful point whether poachers and thieves (*Chenapans*) gave their name to the weapon, or took their name from it.

the flints and springs,"¹ and that they were less durable. On the other side it was urged that the matchlock took longer to "make ready"; the priming was apt to be deadened by wet, or blown away by wind; the store of match was heavy to carry, and troublesome to dry; there was great risk of accidents from sparks of the lighted match, and it betrayed men at night. The butt of the matchlock had to be placed against the chest, six inches below the chin,² while the butt of the firelock was brought to the shoulder, so that the eye could look along the barrel. The fire of the fusil was, therefore, more accurate as well as more rapid. Files could be made closer when the risk of premature ignition by sparks was removed. The old attitude—head erect, elbows high, left leg bent, right leg stretched out—was no longer needed: men could fire like sportsmen, "who shoot to kill, and not merely to make a noise."³

Fault was found with the equipment of the musketeer, as well as with his weapon. The cross-belts, sword-belt, and bandoleer were heavy and cumbrous; the wooden charge-cases attached to the bandoleer entangled men when countermarching, and rattled so much that orders could not be heard, and secrecy was out of the question; the charges were apt to catch fire, or to get wet, and men could not load with them so quickly as with cartridges. By degrees bandoleers were given up, and waist-belts with cartridge pouches came into use, first for fusiliers, and then generally. The sword was hung from the waist-belt, and was retained in spite of complaints that it was heavy, tripped men up when running, and caused confusion in close order movements.

¹ Gaya (1678).

² Sometimes, it seems, it was placed against the stomach, and the kick of it caused injuries (Rousset, iii. 325).

³ Puysegur.

As fire-arms improved a "charge" of infantry came to mean a fire-fight at close quarters till one side or the other gave way, rather than actual collision. Even on the battle-field the part played by pikemen became less prominent. There was little scope for them in the attack or defence of intrenched positions; and they were too slow for surprises and minor operations, especially in broken country. To enable musketeers to face cavalry without the aid of pikes various devices were tried, such as the Swedish feathers adopted, but afterwards discarded, by Gustavus. Barriffe (who wrote before the English civil wars) mentions that the heads of the forks were sometimes unscrewed, and the stems fixed in the muzzles of the muskets. Daggers, known as *bayonettes*, were found better suited for such use, and Puységur sent out parties in 1647 armed with bayonets instead of swords, the blade and the handle being each one foot long, and the handle shaped for insertion in the musket.¹ The regiment of fusiliers formed in 1671 was provided with these plug bayonets, and their use soon spread. The English troops at Tangier had had them eight years before, and a warrant of 1672 directs their issue to dragoons.

But a bayonet that hindered firing when it was fixed was inconvenient, and sometimes disastrous, as at Killiecrankie in 1689. *Chevaux de frise* offered another means of protecting musketeers against cavalry, and were widely used, especially against the Turks. In 1687 Louvois consulted Vauban about them, and Vauban proposed instead a socket bayonet which would not prevent firing or loading. Instructions were issued in 1689 that all the French infantry in the field should have bayonets of this kind.² Something of the sort is said to have been

¹ Scott, ii. 315.

² Rousset, iii. 326.

adopted by one regiment more than ten years before, viz. a sword with a copper ring instead of a guard, and another at the pommel. Vauban also contrived a fusil musket which could be used either as firelock or matchlock, but it was soon set aside. It was at his instance that the use of the pike was entirely abandoned by the French infantry in 1703.¹ In England the proportion of pikes had dropped by that time to a mere "piquet"² of fourteen men per company, and the French example was soon followed.

France was behind other nations in discarding the matchlock. The Brandenburg infantry adopted the fusil and bayonet in 1689.³ The Danish contingent employed in Ireland in 1690 was so armed.⁴ So also were the British guards, and half the musketeers of other regiments. After the battle of Steenkerque the French soldiers armed themselves, so far as they could, with their enemies' firelocks,⁵ throwing away their pikes and muskets; and the king gave orders that in future half the musketeers of regiments serving in the field should have fusils. The matchlock was not entirely superseded, however, till 1708. The French muskets were of smaller calibre than those of other countries, and the lighter bullet (twenty to the pound) had no doubt something to do with the less effectiveness of their fire.

In the sieges of the Thirty Years' war much use was made of hand grenades. In 1667, the year in which Louis XIV. gained possession of Lille, Tournai, and other Spanish fortresses, he ordered that four "grenadiers" should be added to each of the twenty companies of the regiment Du Roi; and three years afterwards these men were gathered together into a grenadier company.⁶ Such

¹ Rüstow, ii. 185.

² Fortescue, i. 326.

³ Meyer, i. 114.

⁴ Walton, p. 433.

⁵ Rousset, iii. 330.

⁶ Rüstow, ii. 104.

companies were added by degrees to other infantry regiments, and in 1678 they were introduced into the English army. Companies of horse grenadiers were also formed.¹ Tall, strong men were chosen for grenadiers. They carried three grenades in their pouches, and were armed with firelocks, bayonets, and hatchets to open palisades. To enable them to sling their firelocks more readily, and leave their hands free for their grenades, they had tall caps instead of broad-brimmed hats. They were expected to play a part, not only in sieges, but in the field, and to assist a battalion in square to beat off cavalry charges. The use of the grenades proved exceptional; but the grenadier companies soon became picked corps, available for arduous enterprises, and survived for nearly two centuries.

Towards the end of the seventeenth century there were, therefore, four kinds of infantry—pikemen, musketeers, fusiliers, and grenadiers. During the war of the Spanish succession these were practically reduced to one kind, all foot soldiers being armed alike with firelock and socket bayonet. This simplified formations and tactics. Ranks were reduced to four, sometimes to three. This did not increase the frontage of a battalion, for the change in the fire-arm allowed the width of files to be made two feet or less instead of three feet. The intervals between battalions were reduced to a few paces, that the fire-line might be as nearly continuous as possible. Battalions were no longer divided into three bodies, a centre and two wings, but into two, a right wing and a left wing. Each wing was subdivided into divisions, platoons, and sections. In the French service a platoon was one-eighth, in the British service it was one-sixteenth of the battalion, exclusive of the grenadiers. Fire had hitherto been given

¹ Fortescue, i. 325.

by successive ranks; it was now delivered usually by platoons or divisions in fixed order, forming three or more "firings."

With three ranks, as in the British service, the front rank knelt and the other two ranks closed up and locked. The fire of the front rank was often reserved. If the battalion was advancing towards the enemy, it halted to allow one group of platoons to fire, and then marched slowly on till the order was given for another group to make ready. Care was taken that half the battalion should always be loaded. After delivering a volley at close quarters, an attack might be made with the bayonet under cover of the smoke; "but if you don't follow your fire that moment, but give them time to recover from the disorder yours may have put them into, the scene may change to your disadvantage."¹ Sometimes all three ranks fired standing, but accidents were apt to happen to the men of the front rank from carelessness on the part of the third rank. The French battalions were formed four deep, and the rule with them was that the first and second ranks should kneel, and the third rank stoop, when firing.²

Brigades consisted of from four to six battalions. The number of brigades in each line of infantry depended on the strength of the army; but the line was divided into a right wing and a left wing, each commanded by a lieutenant-general. It remained the custom to place the infantry in the centre of the line of battle, and the cavalry on both sides of it; but where allied armies were in the field together this held good of each army separately, so that (as at Blenheim) two wings of cavalry formed the centre of the whole. The increasing size of armies also made it necessary sometimes to depart from the rule, to suit the features of the field of battle.

¹ Bland, p. 133.

² Colin, i. 88.

It was with cavalry that Marlborough won his most brilliant victories in the war of the Spanish succession. There is nothing to show that the French cavalry was not what it was under Luxemburg, but it had no longer such preponderance in numbers. The military administration of Louis XIV. had begun to suffer from senile decay; generals were chosen on other grounds than capacity; and they had to deal with a man who, in Voltaire's words, was more of a king than William III., as much of a statesman, and a far greater captain. Marlborough was a firm believer in shock action for cavalry. "He would allow the horse but three charges of powder and ball to each man for a campaign, and that only for guarding their horses when at grass, and not to be made use of in action."¹ He re-introduced the wearing of breast-plates which had been dropped.

He had a singular gift for detecting the weak point in his adversary's line of battle, and for misleading him about his own intentions. He delivered his blow vigorously at the right place and took care to bring up reserves for his cavalry, and to give it all needful support from infantry. It was in this way that Blenheim (1704) and Ramillies (1706) were won. In the former the French army was cut in two, in the latter it was rolled up from right to left. In both cases some battalions of infantry were intermixed with the French squadrons to support them, according to the custom that prevailed; and in both cases when the horsemen fled the foot were left, says Kane, "to the fury of our troops to be cut to pieces to a man, which is generally the fate of foot that are interlined with horse when they are once routed."²

It was in the hard fought battle of Malplaquet (1709) that infantry played the most prominent part. In the

¹ Kane, p. 110.

² *Ib.*, pp. 49, 60.

belt of woods which stretches for nearly ten miles southwest of Mons there is a gap about a mile and a half wide near Malplaquet. Villars was advancing by this gap to the relief of Mons when he found Marlborough in his front and decided to fight on the defensive. "For choice I should have preferred a cavalry action," he wrote to the king (September 10), "but our position is so strong that we have good reason to hope for success if the enemy attack us."¹ Marlborough and Eugene postponed the battle till September 11, to give time for all their available troops to come up; and Villars had forty-eight hours to prepare his position. He occupied the gap with his right and centre. The right, consisting of sixty-three battalions, was very strongly intrenched, and extended into the Bois de la Lainière, which covered the right flank. In the centre the ground was better suited for cavalry action, and here the intrenchments were made with intervals through which horsemen could pass. They were guarded by seventeen battalions of infantry, with cavalry drawn up behind them. The left (thirty-eight battalions) held the southern end of the Bois de Sars. It was thrown forward, so that it crossed fire with the centre, and it was covered by successive lines of parapet and abattis.²

Villars had 60,000 foot and more than 30,000 horse; the allies were a little stronger in infantry, but not so strong in cavalry. They decided to make their chief effort against the French left where the woods screened a turning movement. Eighty battalions were directed against the Bois de Sars and drove the French out of it after four hours' fighting. Villars brought up his reserves and drew the infantry of his centre to his left, but could

¹ Vault, ix. 344.

² See the plans given in vol. xiii. of the *Revue d'Histoire* (1904).

not regain his hold of the wood. He was wounded and had to leave the field.

The intrenchments of the centre were now only lightly held by some of the French guards detached from the right. They were easily carried by Lord Orkney with thirteen battalions (British), and the allied cavalry followed through the intervals, and formed on the plain beyond. Lord Orkney writes: "As our horse got on the other side, their horse came very near ours. Before we got thirty squadrons out they came down and attacked; and there was such pelting at one another that I really never saw the like. . . . At first we pushed them, but it did not last long; for they pushed back our horse again so much that many of them run through our retrenchments. The gens d'armes advanced out; the right of my foot gave them such a fire that it made all that body retreat prodigiously; and then our horse pressed them again."¹

After some hours of this work, Boufflers (who had succeeded to the command of the French) saw that the battle was lost past recovery, and gave orders for retreat. These orders were received with much discontent on the right, where thirty Dutch battalions had been trying with mistaken persistence to storm works held by more than twice their number.² Their gallantry had not been thrown away, however, for it had detained the larger part of the French infantry in this part of the field. It was "a very murdering battle," as Marlborough said.³ The French lost 11,000 men, the allies twice as many, the Dutch being the chief sufferers. The cost was out of proportion to the results achieved. In the words of Marlborough's apologist, "those who judged impartially were of opinion, that all things considered, the allies

¹ *English Historical Review*, xix. 320.

² *Revue d'Histoire*, xiii. 61.

³ Coxe, ii. 462.

gained indeed a very remarkable and glorious victory, but paid so dear for it that some said, *two such victories more would have undone them*; and on the other hand, there were not wanting those that affirmed, that though the French were beaten from their fortified camp, and lost the field of battle, yet they retrieved their former reputation.”¹

In France the troops were extolled at the expense of their general. Villars was blamed for fighting on the defensive, for presenting his flanks like horns to the enemy, and weakening his centre. The battle became a point of departure for French military criticism. Folard took it as an instance of the mistake of ignoring the temperament of troops, which in the case of the French is so essentially aggressive. The abandonment of the pike had led to mere fire tactics and shallow formations, which suited foreigners better than Frenchmen. He pointed out how the infantry on the right, “weary of a passive attitude, which is never to their taste, and crushed by the fire of the Dutch battalions, who being better drilled, more phlegmatic, and more adapted to that style of fighting were more than a match for them, took counsel of their own courage; and without orders suddenly made so fierce a sortie against the firing lines that they broke them up, killed most of the men, and drove back the rest upon their cavalry.”² If they had been properly supported the battle would have been won.

He proposed his system of columns as specially appropriate to the French character, which is “infinitely better suited for shock and for *coups de main* than for standing still and firing.” Each column was to consist of two or three battalions; it would have a front of twenty-four to

¹ Hare, p. 205.

² Chabot, i. 335.

thirty files, and a depth of forty or fifty ranks. One-fifth of the men were to be armed with partizans, and placed on the front and flanks. When a column had burst through the enemy's line, the right half was to face to the right, and the other half to the left, and they were to roll up the line in both directions.

Maurice de Saxe, who had also been present at Malplaquet (as a boy of twelve), commented on it in much the same spirit in his *Réveries*, which were written in 1732, though not published till twenty-five years afterwards. Instead of continuous, or nearly continuous, lines of intrenchment, he would have placed three or more redoubts in the Malplaquet gap. This was the method applied so successfully by Peter the Great at Pultowa in the same year (1709). It would have effectually barred the gap to the enemy, and would have given space for vigorous counter-attacks so congenial to French troops. He agreed with Folard as to the use of columns for attack, but he thought Folard's columns too large. His "centuries," as he called them, were to have eight ranks and twenty files. They were to be separated by intervals equal to their own front, and their advance was to be covered by skirmishers who would fall back into these intervals.

He pictured his encounter with deployed battalions: "I am eight deep against men who are only four deep; I have nothing to check me, no loss of dressing or crowding up; I shall cover two hundred paces sooner than they will cover one hundred; I shall be through the enemy in a moment if it comes to cold steel; and if he fires he is done for."¹ He made light of fire-effect in such cases, and preferred plug bayonets to socket bayonets because they hindered firing. He even proposed to give pikes to

¹ Saxe, p. 23.

the third and fourth ranks, and make them sling their fire-arms; because otherwise the front ranks must kneel, and once down it is not easy to get them up again. His proposals were evidently made with an eye to the special characteristics of French troops.

The doctrine that the French should always attack found favour, but it was sometimes misleading. At Dettingen (1743) Noailles had succeeded in bringing George II. and his army (Austrians, British, and Hanoverians) into a very tight place. The Main was on their left, the mountains on their right; the French were strongly posted in front of them and had occupied Aschaffenburg in their rear; they were short of supplies, and were raked by French batteries on the other side of the river. Instead of standing their ground, the French advanced from Dettingen to meet the allies. Their cavalry had some success at first, but made no serious impression on the allied infantry, and suffered much from its fire. As for the foot, Noailles had to report that few regiments behaved well, and the Guards very ill. The allied infantry, he says, stood like a wall of brass, "from which there issued so brisk and well sustained a fire that the oldest officers owned that they had never seen anything like it, incomparably superior to ours."¹

The fire of the British infantry is thus described by an officer of the Guards: "They were under no command by way of Hyde Park firing [*i.e.* by platoons], but the whole three ranks made a running fire of their own accord, and at the same time with great judgment and skill, stooping all as low as they could, making almost every ball take place."² And an officer of the Welsh Fusiliers says: "What preserved us was our keeping close order and advancing near the enemy ere we fired. Several that

¹ Noailles, i. 123.

² Chequers Court MSS. (1900).

popped at one hundred paces lost more of their men and did less execution; for the French will stand fire at a distance, though 'tis plain they cannot look men in the face."¹ The French loss was about one in ten, that of the allies one in fifteen.

A writer of the time complains that the French, preferring the use of the bayonet to musketry, were apt to fix bayonets too soon. With bayonets fixed only one round could be fired to much purpose; for the bayonet made it difficult to ram down the charge, the men put in powder and ball without ramming, and the effect was very small.² This is an example of the negligence and lack of discipline which pervaded all ranks of the armies of Louis XV. "The officers do not know how to command or to secure obedience, and those who do know are often afraid to do it, lest they should bring on themselves the hatred of their comrades, who believe that punishment makes the men desert, or should incur blame from their colonels, who are not aware of the importance of discipline, and have usually no idea of it:"³ so writes the chief of Marshal Saxe's staff in 1744. If Saxe won victories nevertheless, it was because he knew the strong and weak points of his troops, and had the dexterity to secure favourable conditions for them.

At Fontenoy (1745) he had an opportunity of applying his principles for the preparation of a battle-field. The allies under the Duke of Cumberland were marching to the relief of Tournay, and though Saxe had the advantage in numbers he meant to fight on the defensive. But instead of continuous intrenchments, he made use of redoubts and villages, with wide intervals for counter-attack. One of these intervals, between Fontenoy and

¹ *Gentleman's Magazine*, 1743, p. 386. ² Colin, i. 163. ³ *Ib.*, 169.

Barry wood was no less than half a mile and here the British and Hanoverian infantry broke through. There were twenty battalions of them about 15,000 men and if drawn up as usual in two lines they would have a front of 1000 yards. But the narrowness of the space and the fire from both flanks restricted them to a front of three battalions, the brigade of Guards: the other brigades were behind the Guards or in column on the flanks, the whole forming three sides of a square.

There were twenty battalions of French infantry drawn up in two lines to guard the interval. They were driven back in disorder by the volleys of successive units of this square which, in Voltaire's words, "continually moves on at a slow pace, never getting into confusion, and repulsing all the regiments which confront it one after the other."¹ The old rule, that battalions should halt for each volley, had been changed by this time. They kept on the move, but stepped short: while the platoons in their turn stepped out, halted and fired. The square penetrated 300 yards into the French position, and reached the camp. But the British cavalry, which was in rear, had no room to come forward; and the French cavalry charged the front and flanks of the square again and again, making no impression on it, but hindering its advance or deployment.

The Dutch not having succeeded in their attack on Fontenoy, "we found ourselves," says Ligonier, who was in command of the British infantry, "under a cross-fire of artillery and musketry, as well as fire from their front, and it was necessary to retire as far as the line between Fontenoy and the fort near the wood. . . . Having had orders to make a second attempt, our troops . . . a second time made the enemy give way; and they were once

¹ *Siècle de Louis XV.*, p. 157.

more pushed as far as their camp with great loss of men, which we too felt on our side."¹ There the square was again brought to a check; Saxe made arrangements for a combined attack upon it by horse and foot; and at the end of three hours the word was given for retreat, which was carried out in good order. About one-third of the men were left on the field.

The lesson was not thrown away upon Saxe. Five years afterwards, in a letter to the Minister of War, he intimated that what the English had done at Fontenoy was not a thing that could be done with French troops. He added: "Our infantry, though the bravest in Europe, is not fit to stand a charge in a position where infantry less brave, but better drilled and in a better formation, can close with it; and the successes we have had in battles can be attributed only to chance, or to the skill our generals have shown in reducing engagements to sudden dashes or affairs of posts, where the bravery and persistence of the troops usually win if the general takes care to support them."²

He was even more frank with Frederick the Great, to whom he wrote (September 1746): "The French are what they were in Cæsar's time, and as he has described them, brave to excess but unstable; capable of holding a post to the last man, when the first excitement is over; for in affairs of posts, if you can get them to hold out for a few minutes, they warm to their work; but bad at manœuvring in open country. . . . As it is impossible for me to make them what they ought to be, I get what I can out of them, and try to leave nothing of importance to chance."³

He avoided battles as much as he could, and won his

¹ *English Historical Review*, xii. 523, &c.

² Grimoard, v. 297.

³ *Ib.*, iii. 182.

campaigns mainly by outmanœuvring and outmarching his enemy. The two offensive battles which he fought and won, Rocour (1746) and Laeffelt (1747), were singularly alike in their general features.¹ In each case he had a numerical superiority of about one-third, and he took advantage of the fact that he was dealing with an army of allies, slow to assist one another, to increase this superiority. He made a mere demonstration against the right, and threw his whole weight against the left. Both battles were reduced to affairs of posts in which the assailants were three or four times as strong as the defenders. Little came of these victories, but they served his purpose, to satisfy the French demand without much risk of disaster. The attacks were made by columns of brigades with a front of a battalion; and no less than forty-nine battalions took part in the final assault on Laeffelt.²

The battles of Fontenoy and Laeffelt resemble those of Steenkerque and Neerwinden, fought half a century before. The British were again beaten by the French, alike in attack and in defence. They showed their old hard-fighting qualities; but they were led by men who, though able and soldierly, were no match in military talent for Luxemburg or Saxe.

The English regiments which fought so well at Fontenoy had to deal soon afterwards with a very different enemy. They were recalled to meet the insurgent Highlanders who had routed Cope at Prestonpans and were invading England. The invasion was abandoned at Derby without a fight, and the retreating Jacobite army was followed into Scotland by General Hawley, who engaged it at Falkirk. In his orders, issued at

¹ See *Journal of R. U. S. Institution*, xxxviii. 1247, &c., "The Campaigns of Saxe."

² Rochambeau, i. 53.

Edinburgh a few days before this action, he explained to his men the Highlanders' way of fighting:—

"They commonly form their front rank of what they call their best men or true Highlanders, the number of which being always but few, when they form in battalions they commonly form four deep, and these Highlanders form the front of the four, the rest being Lowlanders and arrant scum. When these battalions come within a large musket-shot or three score yards, the front rank give their fire and immediately throw down their firelocks and come down in a cluster with their swords and targets, making a noise and endeavouring to pierce the body or battalion before them, becoming twelve or fourteen deep by the time they come up to the people they attack. The sure way to demolish them is at three deep to fire by ranks diagonally to the centre where they come, the rear rank first, and even that rank not to fire till they are within ten or twelve paces; but if the fire is given at a distance you will probably be broke, for you never get time to load another cartridge, and if you give way you may give your foot for dead, for they being without a firelock or any load no man with his arms, accoutrements, &c., can escape them, and they give no quarter; but if you will but observe the above directions they are the most despicable enemy that are."¹

His precepts were sound enough, but he placed his men under every disadvantage for acting on them. He had three regiments of dragoons and twelve battalions of infantry, besides militia. He drew them up on a hillside, with the rain driving in their faces, and with their left overlapped by the enemy's line. He had left his guns behind, and he sent forward his dragoons to charge the unbroken front of the Jacobite army. They were driven

¹ *U.S. Magazine*, April 1897.

back on the left wing of the infantry, and the Highlanders followed hard upon them. The foot regiments, assailed both in front and flank, gave a feeble volley from their wet firelocks, and then broke and ran, one after another. Only three regiments on the right stood their ground, and covered the flight of the rest.

Three months afterwards musket and bayonet vindicated themselves as more than a match for sword and buckler. At Culloden it was the Highlanders that fought at disadvantage. They were jaded with a fruitless night march, and there were many absentees. The English guns, distributed by pairs in the intervals between the infantry battalions, galled them into a charge which was made without orders or concert. Nevertheless their right wing had some success. It broke through the interval between the two regiments on the left of the line, temporarily capturing the guns there, and killing or wounding more than 200 men. But it was repulsed by the second line, and scattered by the dragoons. The battle was over in half-an-hour, and the Highland army was dissolved.

Cumberland, writing to Ligonier, said: "Sure never were soldiers in such a temper. Silence and obedience the whole time, and all our manœuvres were performed without the least confusion . . . it was pretty enough to see our little army form from the long march into three lines twice on our march, and each time in ten minutes."¹ He had issued instructions that in using their bayonets the men should thrust, not at their own assailants who could parry with their targets, but at the assailants of their right-hand men.

By the middle of the eighteenth century Prussia had stepped into the position which Sweden had held a

¹ Stowe MSS.

century before as the pattern of excellence in infantry. The earlier victories of Frederick the Great were due, as he himself freely admitted, to the soldiers which he found ready to his hand. The sufferings which Brandenburg underwent in the Seven Years' war had prepared it to make sacrifices for self-defence. The people owed much to their princes, who had in fact formed the country by drainage works and settlement. The Hohenzollerns had a high sense of national duty, and were not obliged to defer to a nobility, or to respect municipal rights. It was only in his outlying possessions that the Great Elector met with opposition to the paternal despotism which he established. His scattered territories without natural frontiers depended on good troops for their security, and it was only by the most careful husbanding of the country's resources that money could be raised to pay the troops. He managed to maintain an army of 24,000 men, which played a creditable part in the German resistance to Louis XIV., and beat the Swedes at Fehrbellin (1675). He added Magdeburg and a large part of Pomerania to the dominions which passed to his successor in 1688, and became the kingdom of Prussia in 1700.

The Prussian troops were among the best elements in the composite armies of the allies during the war of the Spanish succession. They were largely subsidised by richer countries; but when Frederick William, "the Serjeant-king," acceded to the throne, he made it his great aim to maintain a large army without the help of subsidies. In the course of his reign (1713-1740) he raised its numbers from 30,000 to nearly 80,000 men, and this with a population of two millions and a quarter and a revenue not much exceeding one million sterling. Four-fifths of his revenue was spent on the army. France

with ten times the population and eight times the revenue had an army only twice as large.

To keep up this force Frederick William had to do as the Swedes had done, to combine the compulsory service of his own subjects with the enlistment of foreigners. In 1733 he introduced a canton system by which each regiment was assigned to a particular district whence it drew the native portion of its recruits. There was a general roll on which all males were inscribed, and from this roll the men were chosen by the captains of companies and the headmen of cantons conjointly. To ease the burden on industry, there was exemption for certain classes, such as skilled labourers, and for certain towns, as Berlin. The men chosen continued to serve as long as they were fit for service, but they were sent home on furlough as soon as they had been trained, and were only called up for two or three months of each year. They received no pay while on leave, but the captains were allowed to draw pay for them, and this went to cover the cost of bounties for the foreign recruits.

The proportion of foreigners was at first one-third, but afterwards rose to one-half. They were drawn chiefly from the smaller German states. A service in which economy of administration was carried to the highest pitch offered little that was attractive. The pay of the foot soldier was only three halfpence a day, the food, clothing, and quarters were rough, and whatever the term of engagement it was practically for life. Prussian recruiting agents were widely spread, and resorted to all methods, including kidnapping, to catch recruits.¹ The men once caught were carefully guarded lest they should

¹ This was especially the case with tall men, for whom the king had a passion. It is reckoned that he spent nearly two millions sterling on recruits for his giant grenadiers.

desert, if only to re-enlist for a fresh bounty. Many of them were of bad character, controllable only by strict discipline and severe punishments.

"All that can be done with the soldier," says Frederick in his military testament, "is to give him *esprit de corps*, i.e. a higher opinion of his own regiment than of all the other troops of the country, and since the officers have sometimes to lead him into the greatest dangers (and he cannot be influenced by a sense of honour) he must be more afraid of his officers than of the dangers to which he is exposed."¹ So argued Xerxes, as Herodotus tells us (book vii. c. 103).

The officers, drawn almost wholly from a poor and prolific nobility, had little sympathy with their men. But as compared with the officers of other armies their professional standard was high. They learned their business thoroughly, and promotion went by seniority and merit, not by family or favour. They were assisted by excellent under-officers (sergeants, corporals, &c.), most of whom were promoted from the ranks, but some came from the cadet schools and rose to be officers.²

The characteristics of the Prussian army influenced its tactics. At the outset of Frederick's instruction to his generals (issued in 1753), he says: "Our regiments consist, half of our own people, and half of foreigners, who have enlisted for money. The latter, having no further ground of attachment to the state, try to get away at the first opportunity. The prevention of desertion becomes, therefore, an object of importance."³ On this account encampments should not be near woods, and may even be intrenched; there should be frequent roll calls and patrols; marauding should be severely punished; men should not be allowed to fall out on the march; night

¹ Friedrich, p. 204.

² Colin, i. 175.

³ Friedrich, p. 3.

marches and night attacks should be avoided. It was partly for the same reason that loose fighting and individual initiative were discouraged, rigidity and mechanical precision were aimed at.

But there were other reasons for precision. Leopold of Anhalt, "the old Dessauer," whom Frederick called the creator of the Prussian army, had fought with distinction under Eugene at Blenheim and Malplaquet, and against Charles XII. at Stralsund. He was cousin of William III., and was of kin, therefore (like Turenne), to Maurice of Nassau. His experience of war and his disposition led him to favour offensive tactics; at the same time he laid great stress on fire effect. "Good shooting, quick loading, intrepidity, and vigorous attack:"¹ these were his desiderata. The fourth rank was of hardly any value for fire; it was looked to chiefly to stiffen and reinforce the other three ranks. Holding that it was not needed for such infantry as the Prussian, Leopold persuaded Frederick William to do away with it. With closer files the dress hitherto worn was inconvenient; the men entangled one another in turning or kneeling. So the ample skirts and loose folds of the coat were trimmed away; the sabre was shortened and drawn up to the thigh.²

Loading was accelerated by the general adoption of iron ramrods. They had long been in use for pistols and carbines, and file-leaders had them to deal with obstinate bullets; but for the common soldier wooden ramrods were thought good enough, and these were apt to break if they were not carefully handled. In 1698 Leopold provided all the men of his own regiment with iron ramrods, and twenty years afterwards they were ordered to be supplied to the whole of the Prussian infantry. The men were taught to load so smartly that they could fire five

¹ Jähns, p. 1664.

² Colin, i. 176.

rounds a minute; though it seems doubtful whether the rate actually attained in the field with ball cartridge was more than four rounds a minute. The ordinary rate in other armies at that time and for long afterwards was two or three rounds a minute. Napoleon reckoned that sixty shots could be fired in thirty minutes or even in twenty, but one shot in every six or seven would be a misfire.¹

"There is no necessity for firing very fast; a cool well-levelled fire with the pieces carefully loaded is much more destructive and formidable than the quickest fire in confusion." This was Wolfe's opinion;² and the small number of rounds carried by the soldier made it necessary to be sparing of rapid fire. The British infantry at Fontenoy had twenty-four rounds per man. The Prussians carried thirty rounds, and after Mollwitz (where they ran short of ammunition) Frederick gave orders that an additional thirty rounds should be carried by the regimental transport, and issued before a battle. But the time of trial for the soldier's nerves was the time during which he was unloaded, and an abridgment of the loading process had a value apart from the actual number of rounds fired. As Saxe wrote shortly before his death: "Troops that have fired are undone, if those opposed to them have reserved their fire."³

So far as fire effect is concerned, troops advancing must be at a disadvantage, compared with troops standing still. The compensation lies in the moral effect of attack, the threat of hand-to-hand encounter. Saxe held that "it is no use wishing to do two things at once: I mean, to charge and to stand fast. In the one case fire is necessary, in the other not at all, and yet it is not so easy to prevent it."⁴ On this account he preferred plug

¹ Napoleon I., xxxi. 430.

³ Grimoard, v. 296.

² Smyth, p. 377.

⁴ *Réveries*, p. 32.

bayonets. Leopold had a more phlegmatic infantry to deal with, more amenable to discipline. He trusted to the method which the English exemplified at Dettingen and Fontenoy, steady and continuous advance in slow time, with volleys at intervals. The men of the first rank were made to load and fire with bayonets fixed, and Frederick (in 1742) extended the rule to all three ranks.

Great pains were taken to deliver the attack before the enemy was ready for it, and this was to be done, not by hurry, but by precision of movement. "Although the general movements of the infantry may appear slow and solemn, yet they are so accurate that, no unnecessary time being lost in dressing or correcting distances, they arrive sooner at their object than any other, immediately form, and at the same time proceed in perfect order to the attack."¹ The fullest advantage was taken of the reduction in the number of ranks, and the closing in of ranks and files, which followed from the change of weapons of the infantry (*vide* p. 137). Leopold reintroduced marching in step, which had been used by the Greeks and Romans, the Swiss and the Swedes, but had not been general hitherto. It became necessary if men were to move in close order, and without it (as Saxe said) it was impossible to make a vigorous charge; "one will always reach the enemy with open ranks."

In the seventeenth century a force in column of march had a length two or three times as great as it had in line of battle. It took a long time for the rear to close up, and for the force to form line. But when the ranks were reduced to three, and the distance between them to one pace, it became possible to form columns with a front suited to ordinary roads without exceeding the length

¹ Dundas, p. 9.

in line. The Prussians marched usually in column of sections (thirty men or ten files), or, if the roads were narrow, in column of subsections, and could wheel at once into line. The celerity with which they formed in order of battle at Mollwitz and elsewhere was in marked contrast to the leisureliness of other nations. In former days, says Dundas (writing in 1788), "hours were taken up in forming in line of battle in the processional manner, which was then the only one known; and when such line was once formed, it was difficult to make any considerable alteration in it without much previous explanation and endangering the order of the whole."¹

The Prussian regiments consisted of two battalions, each of which had five companies of "musketeers" and one company of "grenadiers." In the field the four grenadier companies of two regiments were grouped as a grenadier battalion. The musketeers were formed into four divisions, each of two platoons, the platoon consisting of seventy-five men or twenty-five files. In presence of the enemy movements were made in column of divisions or platoons, and line was formed either (*a*) to a flank, by the simultaneous wheel of the divisions, or (*b*) to the front, by halting the leading division and marching the rest half-right, or half-left, into the alignment. Frederick preferred the former method when it could be used without exposing his flank to the enemy. Squares were formed from line by wheeling, the two centre platoons standing fast.

Each battalion was divided into two firings, viz. odd and even platoons. The platoons of each firing fired in succession from right to left. When the attack was made by a brigade or a whole wing, the firing was by battalions instead of platoons. Fire was opened at 200 paces from

¹ Dundas, p. 7.

the enemy. There were battalion guns in the intervals between battalions, which kept a little in front of the line, and fired as they moved forward. The intervals were much too small to allow the second line to advance through them. It could only relieve the first line by a "passage of lines": the first line filing to the rear by platoons through gaps made in the second line by breaking off files.¹ This was a manœuvre hardly to be executed when there was real need for it; it was tried, but found impracticable by Girard's corps at Albuera.

The weapon forged by Leopold showed its quality at Mollwitz (1741), though Frederick had not yet learnt how to handle it. The Austrians had 10,000 foot and 8500 horse; the Prussians 16,800 foot, but only 4500 horse. The Austrians were taken by surprise, and to gain time their cavalry charged the Prussian right, routed the horse on that wing, and took the guns. They broke in between the lines of infantry, and at the end of two hours the situation was so grave that Schwerin persuaded the king to leave the field. But when asked about the line of retreat, Schwerin's answer was, "Over the body of the enemy." He led the infantry steadily forward: "The whole front seemed to be moved by a single impulse," says an Austrian account; "it came on step by step with astonishing uniformity. At the same time their artillery [the battalion pieces] was served without intermission with shot and case, and as soon as they were within good range their musketry fire was not silent for a moment, but was like a continuous roll of thunder."² The Austrian infantry could not be brought to charge them, but gathered into deep masses round the colours; and at length Neipperg gave orders for retreat, which was covered by the cavalry.

¹ Rüstow, ii. 254.

² Kriege Friedrichs, i. 409.

According to Frederick, the victory was largely due to the happy chance that he had placed some spare battalions on the right of the infantry, between the first and second lines. He had also posted two battalions of grenadiers among the squadrons of the right wing, to make up for their inferiority in number. Instead of breaking and letting themselves be cut to pieces when the horsemen were routed, these battalions faced some of their men about, so as to show front in opposite directions, beat off the Austrian horse, and eventually rejoined the rest of the infantry.

At Hohenfriedberg (1745) the honours were divided between the general and his troops. By artifice and by rapidity of movement Frederick succeeded in surprising the Austro-Saxon army, and routed the Saxons, who formed its left wing, before the Austrians were in line. The latter were then attacked in flank as well as in front, and were beaten with a loss of more than 10,000 men. The Prussian cavalry had a brilliant share in this victory. Frederick says that he found it at his accession more ponderous and less spirited than that of any European army; but he had taken great pains with it after Mollwitz. The men were not good riders, and had been trained to fight on foot with fire-arms. Frederick declared he would cashier any officer who waited to be attacked, instead of attacking. It was the old German fashion to charge at the trot, and the French fashion to charge at the gallop but in loose order (*en fourrageurs*¹). Speed was regarded as incompatible with closeness of formation. With the help of Seydlitz, Frederick taught his cavalry to increase their pace gradually as they neared the enemy, and yet keep knee to knee.

At Kesselsdorf (1745) "the old Dessauer" had a last

¹ Guibert, i. 74, 369.

opportunity, two years before his death, of showing how to use the troops he had trained. He had 30,000 men; the Saxons (assisted by an Austrian corps) had less cavalry, but rather more infantry, and were strongly posted. Two attacks on the village of Kesselsdorf failed; but the Saxons, issuing for a counterstroke, masked their own guns. Leopold brought his cavalry down on them, and his infantry rallied and stormed the village. He pushed his success so promptly and skilfully that nearly 7000 prisoners were taken.

"Such an army was capable of getting a general out of a scrape, and the king has owned that he was more than once indebted to it in that way:" so wrote Frederick in his memoirs,¹ and Soor (1745) was an example of it. He found the Austrian army unexpectedly on his right flank, but the hesitation of the enemy and the mobility of his own troops enabled him to form front to that flank and to win the victory.

The Silesian wars were no sooner over than Frederick set himself to note what he had learnt from them. In 1748 he wrote his "general principles of war applied to the tactics and discipline of the Prussian army," which was issued confidentially five years afterwards, and is commonly known as his "military instruction to his generals." He points out that Prussian wars should be short and vigorous: "a prolonged war would gradually undermine our admirable discipline, depopulate the country, and exhaust our resources." The Prussians, therefore, should take the offensive: "the whole strength of our troops lies in attack, and we act foolishly if we

¹ Œuvres, i. 176. Wellington is reported to have said the same: "quand je me mets dans l'embarras, mon armée m'en retire" (Wood, *Cavalry in the Waterloo Campaign*, p. 193).

renounce it without good cause."¹ The attack of villages and intrenchments should be avoided if possible, for they cost many men, the flower of the infantry. It is in battles in the open field that Prussian troops find their opportunity.

The one aim of their drill is to enable them to manœuvre and form up more quickly than the enemy, to attack him with energy while he is unprepared, and to settle the affair more speedily than has hitherto been the custom. Cavalry is to be hurled at him with such impetuosity that even the cowards must needs do their duty. The infantry must march briskly forward, with a good countenance and in good alignment. They should not fire till the enemy begins to give way; then they should pour in volleys by battalions.

This was a change in Prussian practice, and was in fact a counsel of perfection which, as Frederick was aware, could not always be carried out. After describing a new order of battle of his contrivance, he remarks: "It will be said that I forbid shooting, and yet that the way in which I draw up my troops hinges on nothing else than the fire of my infantry. To this I answer that one of two things will happen: either my infantry will fire although it is forbidden, or my orders will be obeyed and the enemy will give way."² He told a French visitor (the Comte de Gisors) that the Prussian fire which was so much talked of was the thing which he himself cared least about, because those fine volleys which gave so much pleasure at drill were soon out of the question in a real engagement.³ Even with Prussian troops, it was not always easy to get them forward when they had once begun to fire, as Prince Augustus found at Auerstedt.

¹ Friedrich, pp. 66, 86.

² *Ib.*, p. 81.

³ Rousset, p. 103.

In the new order of battle referred to above some battalions were to be placed at the extremities of the wings to support the cavalry, and to be used afterwards to take the enemy in flank. They were to be assisted in this by the three battalions which the experience of Mollwitz had taught him to place at each end of his two lines of infantry, to close the space between them. In the second line of infantry there were to be some squadrons of dragoons, to fall on the enemy's foot as soon as it began to cluster round the colours, as the Austrian battalions were apt to do. The main thing, he says (in his *Gedanken* of 1755¹), is that one arm should be supported by another, that cavalry should be stiffened by infantry and artillery, and that one should always have cavalry on the spot to help the infantry.

But he had already thought out another order of battle, his "oblique order," as he called it, which proved to be his chief means of victory. In this "you refuse one wing to the enemy and strengthen the one which is to attack. With the latter you do your utmost against one wing of the enemy which you take in flank. An army of 100,000 men taken in flank may be beaten by 30,000 in a very short time. . . . The advantages of this arrangement are (1) a small force can engage one much stronger than itself; (2) it attacks the enemy at a decisive point; (3) if you are beaten, it is only part of your army, and you have the other three-fourths which are still fresh to cover your retreat."²

This oblique order might be brought about by two methods, or by a combination of them. The line of battle might be formed parallel to the enemy, and the attack delivered in echelon at one end of the line, being headed by a picked corps. In open country this

¹ Friedrich, p. 140.

² *Ib.*, p. 64.

might be the only course available, and it was at least as old as Epaminondas. But where the ground, fog, or darkness gave concealment, the line might be formed at an inclination to that of the enemy, and overlapping it, and this made the attack much more effective. It needed *coup d'œil* on the part of the general, a capable staff, and troops that could form quickly and accurately on the line chosen. It might be done by deployment, or by a wheel into line from column. Frederick preferred the latter method (as already mentioned) when he could make use of it without lending his own flank to the enemy.¹

¹ Friedrich, p. 36.

VII

THE EIGHTEENTH CENTURY: II

IN the Seven Years' war Frederick found that the Austrian generals had learnt his maxim: "Always try to do what the enemy wants you not to do." Instead of playing into his hands by fighting battles in the open field, they chose strong positions and fortified them. Their artillery was more numerous than his, was better served, and had a longer range. As he afterwards wrote from bitter experience: "The attack of a well-defended position is a tough job: you may easily be repulsed and beaten. It will at all events cost you some 15,000 or 20,000 men, which makes a cruel breach in an army. Recruits, supposing you can get enough of them, will make up the number, but not the quality, of the soldiers you have lost. Your country becomes depopulated in renewing your army; your troops deteriorate; and if the war is a long one, you find yourself at the head of peasants, ill-drilled and ill-disciplined, with whom you hardly dare to face the enemy."¹

The two first battles of 1757—Prague (May 6) and Kolin (June 18)—cost him nearly one-third of the 100,000 men which he had brought into Bohemia. In each case he found the Austrians strongly posted, and marched along their front to turn their right. In each case the rearward part of his army was drawn prematurely into action during the march owing to its nearness to the enemy. His object was frustrated: the battle raged more

¹ Œuvres, iii. 10.

or less along the whole front, and the attack on the enemy's right was ill-supported. At Prague the numbers were nearly equal. The Austrians on the right, after repulsing the Prussians, followed them up, became separated from the left, and gave Frederick an opportunity of cutting their army in two. At Kolin the Prussians were very inferior in numbers, especially in infantry. They were beaten after four hours of hard fighting which cost them 40 per cent. of their strength.

But if flank marches were hazardous for Prussian troops, much more were they hazardous for inferior troops against Prussians, even if they were made at safer distance. At Rossbach (November 5, 1757) Frederick with less than 22,000 men was in presence of a Franco-German army nearly three times as numerous. Its commanders, finding he would not attack them, resolved to force him back by turning his left. They swept round to the south of his position, and seeing his troops march off, they were persuaded that the Prussians were in full retreat. They hurried on; but suddenly the Prussian cavalry came over a ridge, and charged like a wall upon the front and flank of the German horse which formed the head of the allied army in its order of march. The horse, though reinforced, were driven off the field. The French infantry began to deploy, under fire of Prussian guns on higher ground; but before it could complete its deployment, it was attacked by the Prussian infantry which advanced in echelon from the left.

Alterations had been made recently in the French evolutions, and as Voltaire says, "the soldier did not know where he was: his old way of fighting was changed, and he was not used to the new way."¹ Some of the battalions were in line, and some in column. Under the fire of the

¹ *Siècle de Louis XV.*, p. 349.

Prussian victory which struck them both in front and back 'one saw their ruinous,' says Frederick, 'advancing towards the east. They soon succeeded in the inevitable collisions between them. The mass of the Prussian battalions being numerous, lesser troops were destroyed and more continued. The mass I threw itself at the east. The mass was in outflanked by the Prussian front.' They gave way and a charge of Seydlitz's squadrons annihilated their disorganisation. The other troops followed their example and the Prussian-armed army was routed with a loss of 8000 men. The Prussian loss was 12,000. Only seven Prussian battalions were actually engaged and they did not fire more than fifteen rounds per man.

This was Frederick's only personal experience of French troops. He sent them ahead, 3000 men and officers and in his military testament he remarked if one of the Prussian princes was to fight and to be given an independent command at first, for he had only taught Frenchmen to fight. Frederick declared that in the Seven Years war he was being troubled by three women—Maria Theresa, Elizabeth, and Madame de Pompadour; but the pressure of Russia was intermittent. If severe, and of France he was soon practically relieved by England. The army under Ferdinand of Brunswick which was in British pay, exceeded 60,000 men in the latter half of the war, and of these one-fourth were English. Frederick also received a British subsidy which covered about one-third of his expenditure.

Just a month after Rossbach, Frederick won a still more brilliant victory over the Austrians at Leuthen. He had marched back in all haste to Silesia, had gathered up the fragments of the army which had been beaten at Breslau, and advanced with 30,000 men against 80,000.

¹ Œuvres, iii. 217.

² Friedrich, p. 227.

He found that the Austrian line of battle extended over five miles of undulating country, and that woods and hollows would hide the movements of his own troops. He resolved "to place his whole army on the left flank of the Imperialists, to strike his hardest with his right, and to refuse his left, with such precautions that there should be no fear of mistakes like those which had been made in the battle of Prague, and had caused the loss of that of Kolin."¹ On this flank there were marshes wrongly supposed to be impassable; the Austrians believed their right flank to be the one most exposed to attack; and Daun was hurrying there with reinforcements, while Frederick was wheeling his columns into line opposite the left, at an angle of about sixty degrees with the prolongation of the Austrian front.

The attack was delivered by the vanguard of ten battalions, supported by the first line which advanced in echelon from the right. The Austrian left was driven in upon the centre, and the battalions sent to reinforce it were unable to deploy and were broken one after another. Pivoting on its centre, the Austrian army swung round, and formed a ragged line facing south instead of west. Its cavalry tried to fall upon the Prussian left flank, but were charged and dispersed by the Prussian cavalry, which then fell on the flank and rear of the Austrian infantry. The battle lasted little more than three hours, and the Austrians were so demoralised that, besides 10,000 killed and wounded, they lost more than 20,000 men as prisoners within the next few days. It was a masterpiece, as Napoleon has said, which would alone suffice to immortalise Frederick; but it was Prussian drill that made it possible.

The quality of the troops was even more conspicuous

¹ *Œuvres*, iii. 238.

under adverse circumstances, as at Hochkirch (October 14, 1758). Frederick allowed himself to be surprised in the early morning by an army which in infantry was double his strength, and his right flank was driven in. "Beaten by 8 A.M., having lost nearly all its guns and abandoned its standing camp, his army makes the finest retreat in the world, and halts within a league of the battle-field; there its attitude is so imposing that we throw up redoubts and return to the defensive four days after our successes:" so writes a French officer who was on Daun's staff.¹ Yet the Prussian infantry had lost 8000 men out of 29,000.

At Torgau (November 3, 1760) a desperate situation led Frederick to attack an army half as large again as his own, and so strongly posted that he found it necessary to divide his own army in two, and make separate attacks from north and south. As was to be expected, accidents balked his combinations. The attacks were not simultaneous; the guns were delayed by the rough ground, and the cavalry came up late: the infantry advanced under a storm of fire which swept away nearly the whole of the first line. The repeated efforts of the northern force, which was led by Frederick, met with only partial success: but the Prussians clung to the ground they gained, and Ziethen, pushing in from the south after dark, seized the key of the position. The victory cost Frederick one-third of his army, and is characterised by Napoleon as the only one in which he displayed no talent.

In speaking of his antagonists and their methods of warfare, at the end of 1758, Frederick said: "The Russians, rude and incapable, don't deserve to be mentioned."² True as this might be of the officers, he had already found at Zorndorf (August 25, 1758) that the men were

¹ Waddington, ii. 319.

² Friedrich, p. 162.

not to be despised. His infantry had given way before them both on the left and centre, and as he himself wrote, "everything would have gone to the devil if it had not been for my brave Seydlitz and the courage of my right wing."¹ Thanks to his cavalry, he remained master of the field after twelve hours' fighting; but the Russians confronted him for some days, ready to try conclusions again, though they had lost more than half the men who took part in the battle. It should be added that in cavalry the Prussians were two to one, but in infantry only two to three.

In spite of this experience, Frederick attacked the Russians again next year at Kunersdorf (August 12, 1759). They had defeated his lieutenant, Wedell, three weeks before at Paltzig with heavy loss. They were in a strongly intrenched position, and numbered 63,000 men (including 18,000 Austrians under Loudon); he had only 48,000 men. He threw his whole army on their left flank, carried their intrenchments, and drove their left wing in upon their right. But their stubborn resistance and Loudon's skill saved them from a repetition of Leuthen. They rallied on a hillock in the centre of their position, and the Prussians tried in vain to get possession of it. There was not room for an advance in line or echelon on a broad front, and the cavalry and artillery could afford little support to the infantry, which was already exhausted with marching and fighting. Yet Frederick would not listen to the advice of his generals, to rest content with what he had gained. He used up his last reserves to no purpose, and at the end of eight hours some vigorous counter-attacks drove his troops from the field in utter rout. He wrote that night: "Out of an army of 48,000 men I have not 3000 left. At the present

¹ Waddington, ii. 275.

moment they are all in flight, and I have no longer any control over my men."¹

Lloyd, the historian of the Seven Years' war, in which he had himself taken part as a commander of Austrian light troops, compares the characteristics of the armies engaged in it. So far as raw material is concerned he gives the palm to the Russians. They are obedient, patient under hardships, dull but tenacious of impressions once received, "little disposed to reason about causes and events, and therefore very proper to form a good soldier." Their reverence for their prince inspires them with enthusiasm, and this gives them an advantage over the Austrians whom they otherwise resemble.

The Prussian army, he says, owes its victories to its facility in manœuvring, its leader, and its discipline: "Should this spring languish but for an instant only, the machine itself, being composed of such heterogeneous matter, would probably fall to pieces."

The French are lively, impulsive, and volatile; impetuous and formidable in attack, but if repulsed not easily persuaded to try again; "and as their vanity will never let them confess they are in the wrong, they throw the fault on their leaders, become mutinous and desert."

"The English are neither so lively as the French nor so phlegmatic as the Germans; they resemble more, however, the former, and are therefore somewhat lively and impatient. If the nature of the English constitution permitted some degree more of discipline, a more equal distribution of favours, and a total abolishment of buying and selling commissions, I think they would surpass, at least equal, any troops in the world."²

The defects here glanced at were dwelt upon by Mau-

¹ Waddington, iii. 179.

² Lloyd, ii. pp. xxxv., &c.

villon, the biographer of Ferdinand of Brunswick. From the purchase system it follows, he says, "that their officers do not trouble their heads about the service; and understand of it, very few excepted, absolutely nothing whatever, and this goes from the ensign up to the general. Their home customs incline them to the indulgences of life; and, nearly without exception, they all expect to have ample and comfortable means of sleep. This leads them often into military negligences, which would sound incredible were they narrated to a soldier. To all this is added a quiet natural arrogance which tempts them to despise the enemy as well as the danger; and as they very seldom think of making any surprisal themselves, they generally take it for granted that the enemy will as little."¹ He adds that they look down on their allies as well as their enemy, and are therefore not easy to co-operate with.

These charges are to some extent borne out by British officers themselves. General Kane writes: "I am sorry to say that I have not known, among all the nations I have served with, any officers so remiss on duty as the generality of our own countrymen; who in other respects, not only equal, but in a great measure excel."² General Bland (another veteran of Marlborough's campaigns) says: "It is allowed by all nations that the English possess courage in an eminent degree; but at the same time they accuse us of the want of patience, and consequently that which it produces, obedience."³

The Duke of Cumberland tried to raise the standard of discipline and efficiency; but he added thereby to his own unpopularity, and was said to be treating the soldiers "rather like Germans than Englishmen." He had an eye for men of merit; he put Wolfe in command of a battalion when he was only twenty-three, and gave him

¹ Carlyle, ix. 147.

² Kane, p. 139.

³ Bland, p. 147.

"particular marks of his esteem and confidence." Wolfe, writing to a friend after Braddock's disaster, said: "I have but a mean opinion of the infantry in general. I know their discipline to be bad, and their valour precarious. They are easily put into disorder, and hard to recover out of it." He also spoke of the extreme ignorance of the officers. He was apt, however, to express himself strongly; and not long afterwards we find him declaring that there are some incomparable battalions, "the like" of which cannot, I'll venture to say, be found in any army."¹

His own regiment, the 20th, had so high a reputation that men of rank who wished to learn soldiering sought service in it. It was one of the regiments which afterwards justified Wolfe's statement at Minden (August 1, 1759), while he was wearing himself out before Quebec. "I have seen what I never thought to be possible," wrote the French commander, Contades, "a single line of infantry break through three lines of cavalry ranked in order of battle, and tumble them to ruin."² He had brought his army out into the plain north of Minden, where his flanks were covered by a river and a swamp; and he meant to strike with his right and guard with his left. Nearly all his cavalry (sixty-three squadrons out of eighty-five) were in the centre, which made an elbow in his line of battle. While his right still delayed, his centre was attacked by three brigades of infantry—two British and one Hanoverian—which by some misunderstanding advanced alone from the right of the allied army. The three battalions of Waldegrave's brigade (12th, 37th, and 23rd) led in line. Kingsley's brigade (20th, 51st, and 25th) and the Hanoverians formed a second line, in echelon to right and left of

¹ Wright, pp. 324, 333.

² Carlyle, viii. 138.

the leading brigade. They had to cross three-quarters of a mile of open ground under the fire of more than sixty guns. "But notwithstanding the loss they sustained before they could get up to the enemy, notwithstanding the repeated attacks of all the enemy's cavalry, notwithstanding a fire of musketry well kept up by the enemy's infantry, notwithstanding their being exposed in front and flank, such was the unshaken firmness of those troops that nothing could stop them, and the whole body of French cavalry was totally routed."¹

As soon as Prince Ferdinand saw what was being done by the British and Hanoverian infantry, he moved forward two other brigades of foot in support of them, and sent orders to Lord George Sackville to advance with the British and Hanoverian cavalry (thirty-two squadrons) on the right wing. Sackville's tardy obedience forfeited the opportunity of making the victory as complete as that of Rossbach. The French retreated with a loss of 7000 men. The loss of the allies was only 2800, but half of it fell on the six British battalions, which had 44 per cent. of their strength killed or wounded.

"It is always the case that the longer war lasts the more the infantry deteriorates, and the more the cavalry on the contrary improves."² Such was Frederick's experience, and it took him seven years to restore his infantry to full efficiency. The most arduous part of the task was to reconstitute and train the corps of officers. Under the pressure of war men had been admitted who did not belong to the nobility. These people were now got rid of, or transferred to garrison regiments; for though they might have merit and talent, the king distrusted their sense of honour. To ensure uniformity, district

¹ *Operations of the Allied Army under Prince Ferdinand*, p. 101.

² *Œuvres*, v. 170.

inspectors were appointed—eight for the infantry, four for the cavalry. The troops were not only drilled, but practised in military operations, and there were manœuvres on a large scale both in spring and autumn.

The "General Principles," written after the second Silesian war, needed revision, and in 1771 Frederick issued a fresh work for the guidance of his inspectors and officers. The title of it, "Elements of Castrametation and Tactics," indicates the change in his point of view. The first fourteen articles (out of thirty-eight) are on the art of encamping, or in other words have reference to the defensive. "In the warfare of the present day affairs of posts and artillery combats are everything," he says. Cavalry must be kept well out of the way, hidden in hollows if possible, till the opportunity comes for it. In delivering attacks the bulk of the army should be kept 800 paces from the enemy, that being the utmost range of case-shot. A special corps of attack must be pushed forward, therefore, a hammer to deal the first blow. It may be preceded sometimes by light troops, which are not much to be depended on, but will serve to draw the enemy's fire and cause some disorder in his ranks.

The principles of fortification and siege operations were applied by Frederick to defence and attack in the field, and he was careful to make the fire of his artillery converge upon the point of attack. He had come to rate the effect of infantry fire and the advantage of rapid loading more highly than he did at first as a means of winning battles. He gave several examples of attacks made under different conditions of ground. Supposing there were a village lying in advance of the enemy's main position, he formed his corps of attack in columns, allowing plenty of room for batteries between them. He provided guns and howitzers

in the large proportion of five or six to every thousand men. In 1759 he had introduced a battery of light six-pounders with mounted detachments, the beginning of horse-artillery. Renewed after Kunersdorf, and again after Maxen, it showed its value at Reichenbach (August 16, 1762) acting in concert with the cavalry.¹

The increased use of artillery in the field involved an increase in the number of horses and waggons, which lengthened out columns on the march, or caused them to use several roads instead of one. To guard themselves against surprise, whether in movement or in camp, armies found it necessary to have a screen of light troops, which might also be used to strike at the enemy's line of operations and intercept his convoys.² Thus infantry had no sooner been reduced to a single type, at the beginning of the century, than it began to diverge again into two types. These differed in their function and character, rather than in their equipment. Croatia and other half-civilised countries on the Turkish frontier provided the Austrians with excellent light troops, both horse and foot, of which Trenck's Pandours were a conspicuous example. Frederick found them a thorn in his side, as Saxe had done in the Netherlands. He consoled himself with the reflection that they kept his men on the alert and inured them to war. He formed some light battalions, composed chiefly of deserters, and towards the end of his reign he had three regiments of light infantry and a Jäger regiment of two battalions, one of which was armed with rifles.

Light troops were at first raised as independent companies, and so came to be known as "free corps"; and the name fitted their loose order and habits so well

¹ Friedrich, p. 202.

² Mauvillon, chap. v.

that it was retained after they were formed into battalions. It was a kind of soldiering that suited the French, and under the encouragement of Saxe light troops to the number of about 5000 men were raised and attached to his army. The Grassin regiment, which played an important part at Fontenoy and afterwards, consisted of nine companies of 100 foot and two squadrons of 150 horse. Saxe also raised a regiment of mounted scouts, recruited in Poland and other parts of Eastern Europe. For the foot corps smugglers and vagabonds who knew the country were the choicest material.

In 1759 light companies (*chasseurs*) were formed for all the battalions of Broglie's army in Germany. It had been the custom to employ the grenadiers as skirmishers, but they were not well suited to it, being the biggest and strongest men of the regiment. It was found better to treat them as a reserve for emergencies or as a picked corps for assaults, and to leave skirmishing and outpost work to the light infantry who were small and active.¹ Both grenadiers and light companies were often withdrawn for a time from their regiments, and formed into special battalions. At the end of the war the French light companies were broken up, and were replaced by legions of horse and foot mixed, about 400 strong; but in 1776 the light companies were restored to the battalions. A few years afterwards several battalions of *chasseurs à pied* were raised, attached at first to the *chasseurs à cheval*, but soon separated from them.

In the British army the evolution of light troops took a course of its own. Independent companies of Highlanders had been raised in the early part of the century to keep the Jacobites in check. In 1739 some of them were brought together to form the first Highland

¹ Rochambeau, i. 130.

regiment, the Black Watch; and at the beginning of the Seven Years' war other regiments of Highlanders were raised for service in America. The Royal Americans (afterwards the 60th Rifles) was raised at the same time, mainly from foreigners in Pennsylvania; and Bouquet, a Swiss who commanded one of its battalions, was one of the first men to recognise that light infantry was needed for American warfare, and that hints must be taken from backwoodsmen and Red Indians. Lord Howe shared and developed these views, and in the expeditions against Louisburg and Quebec small corps of light infantry drawn from the line battalions played a leading part. There was also a separate light battalion (Gage's) raised in America, and another (Morgan's) was raised in Ireland for service in Germany. Towards the end of the war the light troops in Ferdinand's army rose to 8000, or 10 per cent. of its strength.¹ Light companies were formed by regiments serving at home, and were sent on active service. A few years afterwards (in 1771) the normal peace establishment of infantry battalions was augmented by a light company, which henceforth paired off with the grenadier company.²

Along with these tendencies in the direction of a looser order of fighting for infantry there were other tendencies in the opposite direction. After the Seven Years' war, the Prussian manœuvres were attended by many officers from other countries, eager to learn the secret of the Prussian victories. "Old Frederick laughed in his sleeve," says Napoleon, "at the parades of Potsdam, when he perceived young officers, French, English, and Austrian, so infatuated with the manœuvre of the oblique order, which was fit for nothing but to gain a

¹ Dundas, p. 265.

² Davis, iii. 111, 163.

few adjutant-majors a reputation."¹ But Frederick seems to have had more faith in mechanism than Napoleon had. His inspections were formidable ordeals, and his generals, anxious to win praise or escape blame, vied with one another in complicated evolutions. The art of drill came to be taken for the art of war.

Foreign officers were the more disposed to lay stress upon it because they saw so much else to disapprove of in the Prussian army. The large proportion of foreigners, the harsh discipline, the scanty pay and food of the men, their bad quarters and indifferent equipment—all results of the endeavour to maintain an army out of proportion to the resources of the country—were in striking contrast with the past achievements of the troops and with their beautiful manœuvring. Other armies, if they could only learn this art, would be much better than the Prussian.

"The first principle of the Prussian system is subordination, and the first maxim 'not to reason but to obey.' The effects of these are attention, alertness, precision, and every executive quality in the officers, which, assisted by the constant exercise of the soldiers upon the soundest principles of tactics, enable the troops to practise with wonderful ease and exactness manœuvres that others hardly admit in theory." So wrote an acute observer, Burgoyne² (of Saratoga fame); at the same time he pointed out that it was necessity, not choice, that had led the King of Prussia to reduce his men "as nearly as possible to mere machinery," and that while the system produced excellent sergeants and subalterns, its effect was bad on the higher officers, who needed "other qualifications than those of mere execution." The disasters of Maxen (1759) and Landshut (1760) are illustrations in point.

¹ Napoleon, xxxii. 243.

² Fonblanque, pp. 62, &c.

The Prussian evolutions, as elaborated by Saldern, were presented in an English dress by Colonel (afterwards Sir David) Dundas in his "Principles of Military Movements," which formed the basis of the Field Exercise of the Infantry issued by authority in 1792. Up to this time there had been no uniformity in battalion movements; each regiment had its own method: "Hence (as Wolfe wrote in 1758) the variety of steps in our infantry and the feebleness and disorderly floating of our lines."¹ The change was much needed, but was not an unmixed benefit. Capricious variety was replaced by servile adherence, and in a few years Moore was complaining of "those damned eighteen manœuvres."² It was a principal aim of Dundas to correct the "independent ideas" of light infantry, which had come increasingly into fashion owing to the war of American Independence. He held that their modes of fighting "are certainly not calculated either to attack or repulse a determined enemy, but only to annoy a timid and irregular one"; and he doubted the expediency of light companies in battalions.³

In France, German fashions had already begun to prevail before the middle of the century. They were first introduced for the German troops in French pay, Saxe setting the example, and soon spread to the French regiments. In the matter of uniform, says General Susane, "folds, facings, pockets, and lining were reduced to fictions indicated by a piping. About the same time and for the same reasons we borrowed from Germany cross-belts which compressed the chest, but had the advantage of throwing the sword to the rear to knock against the calves, and the cartridge-box to quarrel with the havresac; long gaiters, which squeezed the legs and stopped the circulation in that useful member of the foot-soldier; stocks,

¹ Wright, p. 418.

² Bunbury, p. 46.

³ Dundas, p. 14.

which forced him to keep his head up, even with the sun in his eyes, and their corollary, the shako, which has to be balanced; curl-papers for the hair and tight queues. The soldier was uncomfortable, it is true, but he was *smart*."¹ His toilette was said to take him three hours a day.²

This style of dress, and the precision of drill which went along with it, were uncongenial to the French soldier, and were largely due to the wish to make a good show at reviews. But for accuracy of movement and for the maximum of fire effect it was necessary that files should touch; and it was impossible to reduce them from 3 feet to 1 foot 9 inches without alteration of clothing and equipment. The changes marked a stage in the development of linear tactics. German methods of discipline were also borrowed, but in this as in other matters there was no uniformity; colonels of regiments were allowed great freedom.

The work done by Dundas for England was done for France by Guibert, whose *Essai général de tactique* was first published in 1770. He was then only twenty-seven, but he had seen something of the Seven Years' war as a boy, his father having been chief staff-officer to Marshal Broglie, and at one time a prisoner with the Prussians. An ardent admirer of Frederick, whom he ranked even higher than Cæsar, he found much to criticise in the Prussian army. Even its boasted rapidity of fire was only obtained at the expense of good shooting, to which much more attention ought to be paid. In engagements with infantry he preferred file-firing to volleys; but troops advancing with fixed bayonets should not fire at all.

The two features of Frederick's system which Guibert particularly admired and recommended were (1) the

¹ Susane, i. 236.

² Guibert, i. 161.

oblique order, including all dispositions which enabled an army to deliver its attack at one or more points, without exposing itself to attack at other points; (2) the close column of manœuvre, which Frederick had latterly adopted as the most effective means of applying the oblique order. This method of "ployment" and "deployment" Guibert (like Dundas) regarded as the great modern discovery, much handier and more expeditious than the older method of breaking into open column from line, maintaining distance on the march, and then wheeling back into line. To give it full scope he would disregard inversion, and let companies and battalions form up in any order that might be most convenient.

He allowed that columns should be used in certain cases, not only for manœuvre, but for attack, *e.g.* in the attack of posts, or where the ground did not admit of advance on a wide front; but under ordinary circumstances the three-deep line should be regarded as the true fighting formation. This was in accordance with the existing practice, and with the prevailing sense of the best French officers. The regulations issued in 1776, after three years of preparation and experiment, were based generally on linear tactics, but included (as previous regulations had done) the formation of columns of attack for use in special cases. These were columns of platoons or divisions (one-eighth or one-fourth of a battalion) according as they consisted of one or two battalions.

There were many, however, who still shared the opinion of Folard and of Saxe, that a deep order was better suited to French soldiers than a shallow order, and that the column should be the normal, not merely the occasional, fighting formation. This view found an indefatigable advocate in Menil-Durand, an officer of engineers, described by Rochambeau as "a great geometrician but a very

mediocre tactician.”¹ His first scheme, brought forward in 1755, was based on *plesions* (or oblongs) of thirty-two ranks and twenty-four files, drawn up chequerwise; and, like Folard, he proposed to arm some of the men on the front and flanks with short pikes or partizans. In 1774 he presented his system in a modified form, dropping his Greek and Latin names, and accommodating himself to the battalion organisation. This gave him a column of twenty-four ranks and sixteen files. The battalion columns were to be in pairs side by side; they were to advance without firing, but were to have a screen of skirmishers in front of them, formed by their grenadiers and chasseurs. Only when some obstacle prevented their coming to close quarters with the enemy should they deploy into line and have recourse to fire.

Menil-Durand found a powerful patron in Marshal Broglie, who had won more credit in the Seven Years' war than any other French commander, and had made good use of columns of attack at Bergen and elsewhere. By his influence a comparative trial took place at a camp near Bayeux, in 1778. The marshal himself directed the operations of the troops manœuvring on the new system, while Rochambeau commanded the infantry of the opposite force, which was to conform to the Regulations of 1776.² The general opinion pronounced in favour of Rochambeau, who, according to Guibert, showed that “the modern system of tactics is susceptible of everything, adapts itself to everything, employs columns when they are needed—and columns simpler than those of M. de Menil-Durand—combines them, and intermixes them with deployed battalions, supports a line with them, &c.”³

The result was that the Regulations of 1776 remained

¹ Rochambeau, i. 226.

² *Ib.*, 225-232.

³ Guibert, iii. 212.

unchanged. They were practically reproduced in the Regulations of 1791, which continued in force throughout the wars of the Republic and Empire,¹ and which were mainly the work of Guibert. But his victory over Menil-Durand was the victory of common sense over exaggeration, rather than that of the *ordre mince* over the *ordre profonde*.

In his *Défense du système de guerre moderne* (1779) Guibert took care to recognise the value of the column as a fighting formation in combination with line. Sometimes the attacking battalions should be alternately in column and deployed, sometimes the deployed battalions should support the columns, sometimes they should be supported by them; there should be no universal and exclusive method. Columns have the advantage of delivering a rapid succession of strokes at a particular point. Their density gives confidence to the men themselves, and intimidates the enemy. Their narrow front may enable them to find a line of approach where they will escape much loss by the enemy's fire.

"Such are the advantages of the column; but it has also undoubtedly some inconveniences. It is subject to undulation, tumult, and disorder. If its flanks come under a brisk fire, if it does not surmount the obstacles in its path at the first effort, the men close up and press one on another, the ranks become mixed, the officers cannot make themselves heard, the mass sways, scatters, and cannot be rallied except a long way off, and then not as a column."²

Even if it carries the point attacked, it is not in much better case, for it becomes so disordered that it may be driven out again, as happened several times at Neerwinden (1693).

¹ Duruy, A., p. 250.

² Guibert, iii. 250.

As to the appeal made to the national vanity by Menil-Durand, in giving the title of *ordre français* to his system, Guibert spoke out with wholesome plainness. Frenchmen are not the only people to whom attack is congenial: if they were the assailants at Crécy and Poitiers, they were the assailed at Blenheim and Minden. If no nation has such capacity for a first effort as the French, none is more easily discouraged or more impressionable; none has lost so many battles by want of discipline, or lost them so completely. It is less important to have an order which will favour the strong points of the national character, than to have one which will counteract its defects.¹

The Prussian achievements had shown, perhaps more forcibly than ever before, how large a part discipline plays in military success. The armies of the French Republic were soon to remind the world that there are other factors to be taken into account; and the war of American Independence taught the same lesson.

It was regarded as sound and wholesome doctrine, on which the authority of all governments hinged, that "trained troops are invincible against any number or any position of undisciplined rabble."² So thought General Burgoyne when he went to America; but he began to feel misgivings after watching the action at Bunker Hill (June 17, 1775). He wrote: "The defence was well conceived and obstinately maintained; the retreat was no flight: it was even covered with bravery and military skill, and proceeded no farther than to the next hill, where a new post was taken."³ Two thousand British infantry succeeded in dislodging some 4000 New England

¹ Guibert, iii. 219, &c.

² Fonblanque, p. 193.

³ *Ib.*, pp. 142, &c.

militia from intrenchments thrown up in the night; but only after two failures, and with a loss of half their number, killed or wounded. The militiamen were without bayonets, and their ammunition ran short.

The impression made on the British was such that in the following March, when the Americans had thrown up batteries on Dorchester heights to cannonade Boston, Howe thought it better to hasten his evacuation of the city than to attempt to storm the works. In his subsequent operations he showed that he had passed from undue confidence to excessive caution. The command of the sea gave the British troops a great advantage for operations near the coast, and in open country their superiority was well-marked. The victories of Camden (August 16, 1780) and Guilford (March 15, 1781) were won by Cornwallis against odds of two to one. But in wooded country the case was different.

In some "Reflections upon the War in America" Burgoyne wrote: "It is not to be expected that the rebel Americans will risk a general combat or a pitched battle, or even stand at all, except behind intrenchments as at Boston. Accustomed to felling of timber and to grubbing up trees, they are very ready at earthworks and palisading, and will cover and intrench themselves wherever they are for a short time left unmolested with surprising alacrity. . . . Composed as the American army is, together with the strength of the country, full of woods, swamps, stone walls, and other inclosures and hiding-places, it may be said of it that every private man will in action be his own general, who will turn every tree and bush into a kind of temporary fortress, from whence, when he hath fired his shot with all the deliberation, coolness, and certainty which hidden safety inspires, he will skip as it were to the next, and so on for a long

time till dislodged either by cannon or by a resolute attack of light infantry."¹

Eighteen months afterwards he himself fell a victim to such tactics, and was forced to surrender at Saratoga (October 12, 1777). That disaster brought France into the field as the ally of the Americans, and practically settled the issue of the war, though it lasted four years longer.

At the end of that time the American troops were of very different quality from what they were at first. The provincial militia sometimes drove Washington to despair. "To lean on the militia," he wrote, "is to lean on a broken reed. Being familiar with the use of the musket they will fight under cover, but they will not attack or stand in the open field." They came and went according to their pleasure, or the exigencies of their farms: "There is not time to drill the men before they are gone, and discipline is impossible because if it was enforced they would go." With difficulty Washington persuaded Congress to enlist men for the battalions of "the continental army" with the obligation to serve till the end of the war, and to let him appoint the regimental officers, who were at first elected by their men. Even then he found it necessary to take the men on their own terms; and the total number of soldiers enlisted during the war (230,000) was nearly ten times the average strength of the army, so that it was practically renewed annually. The "continental" battalions, however, became very superior to the militia in steadiness and discipline, and some excellent officers, such as Nathaniel Greene, rose to high command. Foreign officers, especially Baron Steuben, a Prussian veteran, served as drill instructors.²

¹ Fonblanque, p. 209.

² Greene, pp. 286-292.

The influence of American warfare in developing light infantry in the British army has been already mentioned. It also introduced the practice of forming line with two ranks instead of three. Many officers disapproved of this. General Clinton thought disasters such as that of Tarleton at Cowpens (January 17, 1781) were to be expected from "our flimsy order of two deep and open files."¹ Dundas says (in 1788): "The method almost universally adopted in our infantry, and in ours only, of forming two deep, and at open files . . . was not produced by the experience of the German war, but by that of the first American. The desultory service there carried on by small bodies of men, and the then deficiency of movement and want of flexibility in our solid battalions, made us run into the other extreme, and first introduced it as proper for that country; review appearance continued it; and the new military modes, brought into fashion by the light infantry, have tended to make it the prevalent order of the service."² He held that a two-deep line was inconveniently long if the force was considerable, that it was unfit to cross bayonets with a line formed three deep, or to resist the attack of determined cavalry, and that it would soon be reduced to single rank in action. It was not till 1824 that the two-deep formation was officially adopted in the field exercise as the normal formation for British infantry, though it had been habitually used in the Peninsula.

¹ *Clinton-Cornwallis Controversy*, i. 320.

² Dundas, p. 53.

VIII

THE FRENCH REVOLUTION (1792-1815)

"THEY will be beat; they want discipline; they have no subordination:" such was the prediction which Arthur Young heard on all sides when the French declared war against Austria in April 1792. He was unwilling himself to play the prophet, but "thus much I may venture, that the expectation of destruction to France has many difficulties to encounter. Give all you please to power of field evolution, depending on the utmost strictness of discipline—you must admit that it bears only on the question of battles. But guarded as France is, by the most important fortresses the world knows, why hazard battles? . . . Oil and vinegar, fire and water, Prussians and Austrians, are united to carry war among twenty-six millions of men, arranged behind one hundred of the strongest fortresses in the world."¹ He came to the conclusion that if these people cared for freedom, as they seemed to do, and were but tolerably united, the attack would be full of difficulties. Even he did not dream, however, that before the end of the year the invasion would be repelled, the Austrians would be driven out of their own Netherlands, and the French be masters of Mayence.

To a professional eye the French army was in a deplorable state at this time. As Trochu has said, the French are a warlike rather than a military people, and discipline had always been slack. There had been little sympathy

¹ Young, p. 356.

between officers and men, drawn as they were from widely different classes; and the progress of the Revolution had increased their alienation. In May 1791 the National Assembly authorised the soldiers to attend meetings of the patriotic clubs, where they were incited against their officers; and in August it decided that half the vacancies caused by the resignation of officers should be filled by the promotion of under-officers.¹ This gave a fresh spur to intrigue and insubordination, and by the time war began two-thirds of the officers had emigrated. The ranks also were thinned; for many men deserted from the regular corps to join the national guards or the volunteers, and recruits were hardly to be had. In June 1792 the regular troops numbered less than 180,000 men, and not more than half of them were available for the field armies.

The national guards, started at Paris in 1789, had spread over the whole country, and had superseded the provincial militia. They were enrolled for local duty only, but in 1791 the Assembly called upon them to furnish 101,000 volunteers as a reinforcement for the armies on the frontiers. These volunteers formed separate battalions, and were allowed to choose their own officers. The generals complained that they were apt to choose intriguers, talkers, and drinkers, rather than men of capacity; but at all events among those chosen were Davout, Jourdan, Lecourbe, Marceau, Massena, Oudinot, Pichegru, and Victor, who had served in the regular army. Others, such as Lannes, Moreau, St. Cyr, and Suchet, had had little if any military training, but soon showed their fitness for command. Not only patriotism and warlike ardour, but ambition and "la carrière ouverte aux talens," drew young men from the civil professions.

But whether the choice was good or bad, the system

¹ The old name, *bas-officiers*, had been changed into *sous-officiers*.

made it difficult for the officers to exert any authority, especially as they had practically no means of punishment, and the ruling powers in Paris encouraged insubordination. It was the duty of the Departments to clothe and equip their volunteers, but the duty was very imperfectly performed; the men joined the armies destitute and pillaged freely.

Rochambeau, who commanded the army of the north, protested against offensive operations with such troops until they had had some training in field service, and wished to assemble them in intrenched camps. He was overruled, and on April 29 two corps were sent across the frontier: one directed on Tournay, the other on Mons. They were to encourage the Belgians to rise, and to divert attention from the advance of La Fayette on Namur. As soon as they came in contact with the enemy they fell into confusion, and fled back in panic to Lille and Valenciennes. At Lille they killed their commander, Dillon, and they tried to do the same to Biron at Valenciennes. The men who behaved worst on this occasion were dragoons of the regular army.

Dumouriez, at that time minister for foreign affairs, was chiefly responsible for this abortive offensive. He was appointed to the command of the army of the north just before the Austro-Prussian army of invasion crossed the French frontier near Longwy (August 19). It was very reluctantly that he gave up his plan of carrying liberty into the Belgian provinces, to go to meet the allies in the Argonne, and adopt a *triste défensive*. His ability and resolution, coupled with Brunswick's caution, brought the invasion to an end in the cannonade of Valmy (September 20, 1792), and turned it into a disastrous retreat. The numbers were about equal. The quality of the French troops was not severely tested, but at all events

they faced the renowned soldiers of Prussia with so good a countenance that the attack was not driven home.

In July the Assembly had declared the country in danger, and the generals were allowed to requisition the Departments for the men necessary to keep up the numbers of their troops. Recruits were much needed, for the volunteers were free to leave at the end of each campaign if they had given two months' notice to their captains.¹ But the new recruits—*volontaires forcés* as they called themselves—had neither the ardour nor the physical fitness of the volunteers of 1791. Substitutes were allowed, with the result (as Carnot reported) that men who had sold themselves like cattle made a trade of deserting and re-enlisting, and that able-bodied persons were replaced by cripples and bad characters. If such men were destitute, as they mostly were, it was usually because they had sold their arms and clothes. Arms, indeed, were so scarce that at one time the war minister, Servan, suggested that two ranks should be armed with pikes and the other two with fowling-pieces. Biron, who commanded in Alsace, wrote (September 9): "I am told that you mean to withdraw from the army of the Rhine nearly all the troops of the line, and to replace them by twice as many national volunteers; this is simply to deprive me of all means of defence while doubling the means of consumption."²

As soon as Brunswick's army began its retreat from Champagne, Dumouriez recurred to his plan of invading the Netherlands. He had 70,000 men, nearly three times the number of the Austrian troops there, and he arranged to advance simultaneously on Tournay, Mons, Charleroi, and Namur. To those who advised him to follow the example of Turenne and Saxe, and have one siege army

¹ Rousset, *Les Volontaires*, p. 27.

² Rousset, p. 106.

and one covering army, he replied: "We are not making war in the old fashion; Belgium is waiting for me; I am sure of six provinces out of ten, and the inhabitants will arm at my approach; there is no reason to be afraid of penetrating by four points at once; the more points the Austrians occupy, the more impossible becomes their defence."¹

His tactics corresponded to his strategy. At Jemappes (November 6, 1792) the Austrians were strongly posted; but they numbered only 13,000, while Dumouriez had 40,000. He had twice as many guns as they had, and his guns included horse artillery, which had been lately introduced into the French service. He attacked on both flanks, as well as in front. His artillery, distributed over an arc of 150°, helped him by the convergence of its fire. Of his infantry about one-third were regulars, and as a rule one battalion of the line was brigaded with two battalions of volunteers. Whole battalions were thrown forward as skirmishers, supported by light cavalry; they swarmed round the Austrian works, and drove the gunners from their guns by a rain of bullets. The attacking troops showed some unsteadiness, and lost heart at times; but they responded to the appeals made to them, and the battle was won. It carried with it the conquest of Belgium, encouraged the troops, and raised their reputation both at home and abroad.

So many of the volunteers availed themselves of their right to go home at the end of the campaign, that the French army in the Netherlands was reduced to half its strength, just at the time when England and Holland were added to the enemies with which it had to reckon. Dumouriez was bent, nevertheless, on invading and revolutionising the Dutch provinces, where he hoped to find

¹ Chuquet, Jemappes, p. 74.

the supplies which he was unable to draw from France. But the advance of the Austrians from the lower Rhine interfered with his projects. He was obliged to go to meet them, and a battle was fought at Neerwinden (March 18, 1793). This time the numbers were nearly equal. The French had gone through great hardships, and had lost much of their ardour. They were short of officers, and would not obey those they had. The want of a trained staff was especially felt. They were beaten, and Belgium was lost as quickly as it had been won. Dumouriez, who had been for some months at open war with the Jacobins in Paris, saved his head from the guillotine by deserting to the enemy.

In 1793 the French Republic had to deal with foreign enemies on all its frontiers, and with insurgents in La Vendée and the south. But it was on the northern frontier that the danger was greatest. By midsummer the allies, 75,000 strong, were besieging Condé and Valenciennes. The French army numbered only 40,000; and its new commander, Custine, though a man of energy and ambition, found it necessary to improve its organisation and discipline before attempting operations. In this work he was thwarted by the war minister, Bouchotte, the creature of the Paris Commune. The Père Duchesne lampoons were distributed throughout the army, denouncing all aristocrats and Custine in particular. Some battalions tore them up, declaring that "Custine was a brave man, and these insults could only serve to destroy the confidence which the army had in its general."¹ The fall of Condé (July 12), without any attempt having been made to relieve it, gave his enemies their opportunity; Custine was summoned to Paris and guillotined, to the regret of such men as Davout and St. Cyr.

¹ Rousset, p. 217.

Valenciennes surrendered on July 28, and the allies might have gone on to Paris; or as their cautious commander, Coburg, wished to do, they might have kept together and widened the gap made in the fortress-barrier. But they distrusted one another, and were bent on pursuing their separate interests instead of the common object. Coburg with 36,000 men laid siege to Quesnoy, the Duke of York (under imperative orders from England) marched northward to besiege Dunkirk, and the Dutch lay round Menin. While the allies were dispersing the French were gathering. In February the Convention had decreed a levy of 300,000 men, and by August the total strength of the Republican forces had risen to half a million. Reinforcements from the armies of the Rhine and the Moselle brought the army of the north up to 90,000.

The committee of public safety had been formed in April to control the executive. Carnot joined it in August, and was specially charged with the movements of the armies. Under his directions Houchard, who was now commanding the army of the north, advanced with 45,000 men in the beginning of September to raise the siege of Dunkirk. York had 34,000 men (of whom less than 4000 were British); 20,000 were engaged in the siege, and the rest formed a covering corps, separated from the main body by a swamp. The covering corps, mainly Hanoverians, was attacked and defeated by Houchard at Hond-schoote (September 8), and the whole force narrowly escaped disaster. Houchard had meant to begin the attack with his right; but his centre, suffering from artillery fire, broke loose, dissolved into skirmishers, and worked up under cover to the enemy's position. Twice they were beaten back by the steady fire and advance of the Germans; but they swarmed forward again along the

whole line, and after four hours' fighting, Wallmoden, seeing that his men and their ammunition were exhausted, fell back to a position in front of Furnes which covered York's withdrawal.

The incompleteness of his success cost Houchard his head. Jourdan, who succeeded him, won the battle of Wattignies (October 15 and 16) by the same kind of fighting. Coburg having taken Quesnoy was blockading Maubeuge. He had nearly 50,000 men, but Clerfayt's corps on the right bank of the Sambre was under 20,000, and had six miles of broken country to hold. Jourdan while engaging this corps along its whole front, concentrated 20,000 men against its left. "Throwing forward repeatedly whole battalions of skirmishers,"¹ and taking advantage of the ravines, he enveloped the left and forced it back. Clerfayt's centre and right were obliged to follow suit and to cross the Sambre, and the blockade was raised.

The allies had so managed matters that in both these battles they were outnumbered by two to one, and the French, having the initiative, could make the most of their loose tactics. It was not merely that the French, being untrained and undisciplined, fought better in loose order than in close; their natural aptitude enabled them to fight better than their opponents in loose order. A Prussian officer wrote of them in May: "In the woods, where the soldier breaks rank and has no drill movements to carry out, but only to fire under cover of the trees, they are not only equal but superior to us; our men, accustomed to fight shoulder to shoulder in the open field, found it difficult to adopt that seeming disorder which was yet necessary if they were not to be targets for the enemy."²

In the winter of 1793-4 the amalgamation of the regu-

¹ Duhesme, p. 70.

² Chuquet, Valenciennes, p. 96.

lars and volunteers, which had been decreed in February 1793, began to be carried out. The infantry was formed into demi-brigades of three battalions, one from the line and two from the volunteers; henceforward they were to wear the same uniform,¹ draw the same pay, and all have the right of electing their officers up to the rank of captain. Numerals were substituted for the time-honoured names of regiments—Picardie, Piémont, Navarre, &c. There were 209 demi-brigades of the line and 42 of light infantry; the latter formed partly out of the regular *chasseurs à pied*, partly out of free corps raised for service in the Alps and Pyrenees. The battalions consisted of one grenadier company and eight fusilier companies, and had a strength of nearly 800 men.

The amalgamation was only one sign among many of a new order arising out of chaos. The committee of public safety imparted vigour and unity to the whole military mechanism. Men could be requisitioned, not only as soldiers but for transport service or manufacture. Horses could be taken both for draught and for cavalry use. Supplies of all sorts became more plentiful. The officers, especially those who had risen from the ranks of the regular army, were as a whole superior to the aristocratic officers of the old régime. They had been tested by two campaigns; the noisy patriots had been sifted out, and the best men were rising to high command. They no longer dreamed, like La Fayette and Dumouriez, of playing a political part, or even planning their own campaigns. They were the zealous and docile servants of the committee, and their armies were reduced or reinforced according to the plans prepared in Paris to meet the exigencies of the war as a whole.

¹ The line battalions exchanging their white coats for the blue coats of the national guard.

The campaign of 1794 began with the siege of Landrecies. Coburg had 160,000 men, but only half of them were available for the siege and covering army; the rest were guarding the Netherlands frontier. The French armies of the north and the Ardennes, under Pichegru, numbered 180,000 men, exclusive of garrisons. Pichegru failed in his attempts to raise the siege of Landrecies, which surrendered on April 30. But it was the Republican strategy to attack the flanks as well as the centre; and when Pichegru found the centre too strong for him he threw his whole weight into these flank attacks. On the day on which Landrecies fell, Moreau and Souham with 50,000 men took Menin and Courtray, while Carnot was sending orders to Jourdan to bring 45,000 men from the Moselle to reinforce the attack on the Sambre.

The advance of the French into Flanders threatened the line of communication of the British and Dutch, and the allies moved northward to repel it. They even hoped to cut off the invaders; but their movements were so badly combined that two columns under York, numbering 18,000 men, had to deal unsupported with at least 40,000 Frenchmen.¹ York's troops were on the march, near Tourcoing (May 18), when they were attacked in front and on both flanks, and were driven back in disorder on Tournay with a loss of sixty guns. The honours of the day again fell to the French skirmishers; "as sharp-sighted as ferrets, and as active as squirrels," according to Sir Robert Wilson,² they poured through the gaps between the several bodies and enveloped them. In square or in column the French infantry could be broken by the British and Austrian cavalry (*e.g.* April 24 and 26 and May 10), but in swarms they were formidable and could sting intolerably. As the Duke of York's

¹ *Revue d'Histoire*, xxix. 66.

² Randolph, i. 86.

aide-de-camp wrote: "No mobbed fox was ever more put to it to make his escape than we were, being at times nearly surrounded."¹

Four days afterwards the French, encouraged by their success, attacked the allies in their camp at Tournay. They were beaten off with heavy loss, but only after twelve hours' fighting. Early in June Jourdan was on the Sambre with 90,000 men. After repeated failures the French established themselves on the left bank and gained possession of Charleroi. They were attacked by Coburg with 50,000 men, and the battle of Fleurus was fought (June 26). The French had intrenched their positions, which extended over a semicircle of twenty miles. In some parts they held their ground, in others they gave way. Marceau's divisions—and there was no better leader—were broken, and most of his men fled in panic across the river. The allies might have won if they had persisted, but Coburg broke off the battle and gave orders for retreat.

A fortnight later the French were in Brussels, the armies of Pichegru and Jourdan had united, and the allies had fallen back to Antwerp, Louvain, and Namur. A few days afterwards they separated; the Austrians, who had for some time been lukewarm about the defence of the Netherlands, crossed the Meuse at Liège and Maes-tricht, while the English and Dutch went northward to cover Holland.

That a nation which had taken its army to pieces, got rid of the officers, and flooded the ranks with raw material, should beat the combined forces of its neighbours, while it was itself torn by civil war, was an astonishing thing which men sought to explain in different ways. The

¹ Calvert, p. 220. Cf. *United Service Magazine*, August 1897, p. 517, "Letters of a Staff Officer."

Archduke Charles, who had taken part in the campaign, said of the allies' failure: "We must ascribe this wholly to the mistakes made by our generals and taken advantage of by our opponents. . . . Ignorance, indolence, and egoism are to blame for all our misfortunes."¹

Another eye-witness, Scharnhorst, who was at that time an officer of Hanoverian artillery, justly argued that there were deeper and more general causes. Chief among these were the rivalries and divergent aims of the allied powers, and the half-heartedness of their people. The powers employed in this war less than one-third of the troops which they maintained on a peace footing. As for the population and civil administration, the war was carried on in the Netherlands "like a private enterprise, out of which all hoped to make money, but for which no one would make sacrifices." France enjoyed great advantages in the compactness of her territory, and the strength of her frontiers, guarded on the north-east by a triple line of fortresses. Owing to the demolition of the Belgian fortresses by Joseph II., the allies were dependent on field intrenchments; and this led them to adopt a cordon system, to cover the country, which absorbed half their troops.

As regards the troops themselves, Scharnhorst says that the allies made the mistake of holding their enemy too cheap. In cavalry the allies were superior both in number and quality. Their infantry also was better in some respects: they could beat off cavalry charges, and if they failed in an attack they could try again. These things the French could not do, owing to their want of drill and discipline, and in open country they were no match for the allies, if the numbers were at all equal. "In affairs of posts, and in all kinds of fighting

¹ Karl, pp. 4-11.

on intersected ground, they showed greater aptitude, and one may even say more courage, than the allied armies. The soldier of the latter, trained in regular movements and taught to act like a machine, but not versed in the art of taking advantage of the ground (every ditch, tree, or hillock), and studying order and mutual support when in loose formation, was inferior to the nimble and quick-witted Frenchman. The incessant and better-aimed fire of the latter, his good and numerous artillery, his superiority in numbers and frequency of relief, caused the allies to find that at the end of a hard day's fighting in close country they had incurred heavy loss (at all events in wounded) with no decisive result; or having used up their ammunition and giving way to fatigue, they left the field to the enemy. It is an established fact that the French skirmishers decided most of the affairs in this war, and were better than those of the allied armies."¹

The evolution of the Republican tactics has been well described by Duhesme, who commanded a battalion of volunteers in 1793 and a brigade in 1794. He shows how the habit of skirmishing spread throughout the infantry, which was for the most part unfit to manoeuvre in close order. By the end of 1793 the battalions were practically all light infantry; they acted independently, dissolved into skirmishers when they engaged, and in this way won the battles of Jemappes, Hondschoote, and Wattignies. But in 1794 it was found that the Austrians had taken steps to meet this mode of fighting. Coburg had given orders that one-third of a battalion should be used for skirmishing, one-third as supports, and one-third as a reserve. When the French tried to raise the siege of Landrecies, they came in contact with outlying detachments of the covering army.

¹ Scharnhorst, p. 54.

"These advanced guards, well handled, only disputed their ground long enough to make us waste time and men. They brought us from one position to another till they reached that which they really meant to defend. There they let us use up and scatter our last battalions, whose ardour generally shattered itself against their intrenchments. Then fresh troops issued from them in the most perfect order; they, in their turn, threw out skirmishers upon our flanks, and thus they charged at advantage troops dispersed and fatigued, corps in disorder and unable to rally most of their men."¹

Experience of this sort taught the French generals to keep their troops more in hand, and to have a chain of close columns behind the flexible and mobile line of skirmishers and their immediate supports. These were usually battalion columns with a front of one or two platoons, disposed chequerwise in two lines. The columns were sometimes deployed when they came under fire, or if they were acting on the defensive. In the autumn of 1794 there was a lull in the operations which allowed the troops to be exercised in drill and field duties. The camps became more orderly and regular, but they were laid out on new principles. "No more first line, no more second line, no more cavalry on the wings: the arrangement of our armies was no longer the same; it was broken up into divisions of ten or twelve battalions; the cavalry was distributed among these divisions, four to six squadrons to each, except one-fourth of it which was kept together, and formed the reserve of the army."² A division had its own outposts, furnished by its light demi-brigades; and it often had a front of two or three leagues, the troops being placed on the higher ground, and the intervening hollows being left unoccupied. The armies,

¹ Duhesme, p. 72.

² *Ib.*, p. 76.

therefore, took up a great deal of room, three or four times as much as in former days, with advanced guards thrown far to the front. It was an accepted principle that to outflank the enemy was to beat him, and that an army could not extend itself too much.¹ In advancing, the divisions moved by parallel roads and acted more or less independently. Great scope was given to divisional commanders to show their capacity to handle the three arms in combination.

Besides the tactics and organisation of the Republican armies there are two other points to be noticed: their *moral* and their mobility. The standard of discipline in the narrower sense—instinctive obedience—was still far from high, and remained so throughout the wars of the Empire. As Napoleon wrote to his brother Joseph (June 22, 1806): "The Frenchman has never been obedient, and is still less so since the war and the Revolution have excited him." But experience had taught all ranks the need of subordination, and as the unfit had been weeded out there had grown up that mutual confidence between officers and men which secures the main purpose of discipline, common action for an end. Their Republican ardour supplied them with that enthusiasm which, as Lloyd pointed out (p. 170), is an essential ingredient in the best soldiers; and their alertness of mind and body gave them the individual initiative and enterprise which their tactics demanded. If they were deficient in the discipline which consists in doing what one is told, they excelled in that higher kind of discipline which makes a man anticipate orders, and do what his superior would wish him to do. The hope of honours and rewards was more than an equivalent for the fear of punishment on which Frederick had relied. The election of officers by

¹ Foy, i. 106.

their men had been dropped, and strict rules were laid down for promotion.

Before the Revolution the feeding of the troops was left to the commissariat, who obtained their supplies usually from magazines or by local purchase. They magnified their office, and claimed that the general should not only let his chief supply officer know beforehand of his intended movements, but should take him into counsel. The very large numbers of men in the Republican armies, and the want of money, compelled a change of system. The troops lived on the country they occupied, either by requisitions or by pillage. It became the business of the commanders of divisions to see to the subsistence of their men, and the commissaries sank into subordinate agents. The collection of supplies was one reason for the wide extension of the armies, as it became increasingly difficult when they were concentrated and stationary. In rich and populous countries, such as the Netherlands and the Rhineland, the troops could be fed well enough by requisitions; but they failed when the country was poor or when the troops were in rapid movement. There was nothing for it then but for the men to help themselves; pillage was winked at or even enjoined, and the habit of marauding became confirmed. "Our mode of feeding our armies is odious," writes an officer in 1813; "it is subversive of all subordination and of every principle of generosity and civilisation."¹

It was the result of necessity rather than of choice, and it had at all events the advantage that it enabled the French to cut down their transport. This was reduced in other ways also. Tents were not carried; subalterns and captains of infantry were not allowed horses, but shared the burdens of their men. The French infantry had only

¹ Fantin des Odoards, p. 373.

one-tenth of the number of baggage animals that were attached to the Prussian infantry. The mobility which this diminution of trains gave them was increased by the marching powers of the French soldiers, in respect both of endurance and speed. On the battle-field they broke loose from the regulation pace (seventy-six steps a minute) and manœuvred in quick time or even at the double.

The mobility of the Republican troops was serviceable to them in the Netherlands and on the Rhine, but it was in Bonaparte's Italian campaigns that its full value was brought out. For instance, Masséna's division, after fighting at St. Michel, east of Verona, marched in the night sixteen miles to Rivoli, helped to win the battle there next day (January 14, 1797), and on the 15th marched twenty-five miles towards Mantua. The brigades, formed in deep columns, "struck the enemy's front like a battering-ram, while the light infantry skirmishers gained the flanks, crowned the heights, carried alarm and confusion into the enemy's rear, and hindered or even cut off his retreat."¹ Napoleon afterwards said that in his early campaigns, if he was in a difficulty about feeding his men, he had only to throw himself on the rear of his enemy to find plenty.² The masses of prisoners taken by the army of Italy astonished the armies north of the Alps, who were accustomed to regard the capture of 5000 men as a great achievement.

Marmont says that Napoleon, unsurpassed as a strategist, was deficient in the art of handling troops on the battle-field, having had no practical experience in command of a brigade or division.³ The man who was beaten at Salamanca was hardly entitled to pass judgment on the man who won Austerlitz, but at all events

¹ Duhesme, p. 95.

² Jomini, i. 334.

³ Marmont, p. 26.

Napoleon seems to have concerned himself much less than Frederick did with details of "sergeantry." The drill-book of 1791 remained in force throughout his reign, except for some minor modifications, but corps commanders were allowed much freedom in the use of it.¹

The conscription law passed in 1798 had provided permanent machinery for maintaining the French armies at the required strength. It yielded 80,000 conscripts a year, if necessary, and the total number of officers and men when Napoleon became emperor was over 400,000. The "grand army" which he formed for the invasion of England, and eventually led against Austria in 1805, was not far short of 200,000 men. For the better control of such large numbers, Napoleon grouped the divisions into army corps, and formed the heavy cavalry into a separate corps. This practically confined the generals of division to the command of a single arm, and gave them less scope than they had had under the Republic. The demi-brigades became regiments again in October 1803, but kept their numbers.

By the conscription law all Frenchmen became liable to service for four years on reaching the age of twenty, and were to be called up as they were needed; but Napoleon allowed of substitutes in order that he might keep a good proportion of old soldiers. Companies of "voltigeurs" were added to all battalions in 1805 to be used especially as skirmishers, not with the object of creating a special class of infantry, but to turn to account the conscripts who were below the standard height. As soon as he was appointed to command in Italy, Napoleon

¹ See for instance the military studies prepared by Ney in 1804 for the guidance of his troops in the camp at Montreuil, printed at the end of his *Memoirs*.

revived the practice of detaching the grenadier companies from their battalions. In 1805 he formed a division of grenadiers under Oudinot as a reserve for the army, and he afterwards detached the voltigeurs also, and coupled them with the grenadiers. He had a strong leaning towards picked corps, though he was alive to the injurious effect on the army at large if much of its cream was taken. The Guard when first formed, at the end of 1799, was limited to about 2000 men. By the end of 1813 its infantry had been gradually increased to eight divisions, amounting to 72,000 men. Its value, not only as a reserve on the field of battle, but as a training-school for under-officers, was held to justify the increase;¹ but its growth was at once cause and consequence of the deterioration of the troops as a whole. It drew its recruits partly from other corps, partly from the levies of conscripts.

The dress of the infantry was altered and made looser to suit its mode of fighting. A shako was substituted for the three-cornered hat, and the gaiters were shortened. The facings of the coat, instead of being mere ornament, were made to afford a double covering to the chest, and the men were provided with overcoats, a necessary provision for men who habitually bivouacked, and had often to face winter campaigns. The muskets were of an old pattern (1777), effective up to 200 yards and with an extreme range of about 500 yards. The calibre was two-thirds of an inch, and the weight (with the bayonet) 11 lbs. This was rather less than the weight of the English muskets, which were five inches shorter, but had a calibre of three-quarters of an inch. The rate of fire for a continuance was about two shots a minute, but misfires were frequent. Each man carried sixty rounds of ammunition.²

¹ Correspondance, November 16, 1813.

² Balagny, i. 23.

Napoleon held that "the fire-arm is everything, the rest nothing"; the very opposite of Souvorov's saying about the bullet and the bayonet. He was not inclined, therefore, to trust wholly to columns and skirmisher swarms against troops in line. Nor did he admire the Republican system of extending to envelop the enemy. Jourdan's defeat at Stockach (March 23, 1799) was due to this: "His divisions were too far apart, and his field of battle was three times what it should have been."¹ The Austrians had made the same mistake at Rivoli. To avoid disaster and to secure decisive results, Napoleon liked to have his troops under his own eye and hand. "The army should be kept united," he said; "the largest possible force should be concentrated on the field of battle, and every opportunity should be taken advantage of, for fortune is a woman."²

At the passage of the Tagliamento (March 16, 1797) the leading demi-brigades had their second battalions deployed with the first and third battalions in close column on the flanks of the second, by Napoleon's order.³ At Marengo Desaix's demi-brigades had two battalions deployed and the third in column 200 paces in rear.⁴ In November 1805, when he was about to meet the Russians and to settle (as he said) whether the French infantry was the second or the first in Europe, Napoleon issued instructions for the formation of the brigades. If circumstances allowed, the first regiment should have its two battalions deployed; the two battalions of the second regiment should be in close column of divisions, to the right rear and left rear respectively of the line

¹ Napoleon I., xxx. 263.

² *Ib.*, xxxi. 418.

³ Correspondance, March 17, 1797.

⁴ So the brigade reports indicate (Cugnac, *L'armée de réserve*, ii. 397). A different formation is shown in the picture of the battle which serves as frontispiece to Home's *Précis of Modern Tactics*.

so formed. By this means the enemy would be met by the fire of the line, and the columns would be in readiness to engage his columns. If the division had a fifth regiment, it should be held in reserve 100 paces to the rear. There should be a squadron or a troop of cavalry behind each brigade, and the guns should be placed between the deployed battalions and on their flanks.¹

These directions were not closely followed at the battle of Austerlitz (December 2, 1805). For instance, in St. Hilaire's division of Soult's corps the fifth regiment, instead of being in reserve, led the advance, throwing out skirmishers. The other four regiments were side by side in column of divisions, each having one battalion behind the other. At Pratzen they came upon the head of a Russo-Austrian column (Kollowrath's), and while engaged with it they were attacked on their right flank by part of another column. The leading battalions deployed on a crooked front, and the rest were brought up to fill gaps in the first line, so that at length nearly the whole division was fighting in line.²

The experience of 1805 caused the Austrians to issue new drill regulations in which the formation and deployment of columns of divisions were included, and fighting in loose order was for the first time recognised. Prussia did not at once follow this example. Her troops had not come into collision with the French since the early years of the Revolution, and the repulse of Hoche at Kaiserslautern (November 30, 1793) had confirmed their belief in their own superiority. It was allowed that Napoleon's soldiers had some good qualities, but after all they were "the men of Rossbach"; defeat would mean rout with them. However it might be in close and hilly

¹ Correspondance, November 26, 1805.

² See *Revue d'Histoire*, June and August 1907, and plans attached.

country, they were no match for Prussians in the open field. Scharnhorst, who had recognised their merits as skirmishers (see p. 200), thought that the Prussians had the advantage not only in discipline, but in the quality of their officers—their skill, bravery, and high sense of duty.

At the same time he and other men of capacity were not blind to the need of reforms in the Prussian army. Frederick William III., on his accession (in 1797), charged a military commission to work out a scheme. He wished to have a larger proportion of native recruits, to raise the strength of the battalions, to improve the instruction of the younger officers and the food of the men. He declared that for some years past there had been a great falling off in zeal and emulation among the officers generally; and if this were not corrected "our fine army, which served as a pattern for all Europe, will break down, and will retain only the memory of its brilliant past."¹ But he had not the vigour to carry through the changes which he saw to be necessary in the face of strong opposition. Even his efforts to cut down the excessive transport of the army proved fruitless.

The number of men that Prussia could put into the field, under 200,000, was plainly inadequate to a single-handed contest with France; and many proposals were made for the establishment of a militia, or the adoption of universal service. The Prussian system of giving furloughs to native recruits as soon as they were trained lent itself to these plans, which foreshadowed the subsequent reforms of Scharnhorst. But most of the older officers shook their heads at such schemes. It was by precision of drill that Frederick's army had won its victories against great odds. This precision had been

¹ Goltz, p. 172.

maintained, and even carried to a higher pitch; and "as compared with battalions which manœuvred without a fault, the idea of a levy in mass could only seem a caricature of soldiering."¹

Civil objections reinforced military, and had come to carry more weight. Powerful class interests opposed the withdrawal of the existing exemptions from military service, and the imposition of the higher taxation which any substantial increase in the armed forces of the country would involve. There was also a fear that such an increase would be regarded by Napoleon as a symptom of hostility and would hasten a collision. The consequence was that little was done beyond the addition of a fifth company to the service battalions of the infantry, bringing their strength up to nearly 800 men.

The three light infantry regiments formed by Frederick the Great had been expanded by his successor into twenty-four battalions of "fusiliers," and the Jäger corps had been increased to three battalions. Ten men per company of the line battalions and twenty per company of the fusilier battalions were armed with rifled carbines and practised in shooting at a target up to 300 paces. This gave a total of about 23,000 men (or more than one in six) who were trained to act as light infantry. Many officers held this proportion to be insufficient, and wished the battalions to be formed two deep in line, the third rank being used for skirmishing. Some of them, *e.g.* Gneisenau, had taken part in the war of American independence, and had learnt the value of skirmishing there; others were impressed by the victories of the French Republicans. On the other side it was urged that fighting in loose order lent itself

¹ Goltz, p. 156.

to skulking and desertion, unfitted men for fighting in line, and checked the use of the bayonet; it had been adopted by the French only from force of circumstances, and they were now reverting to the older formations. By 1806 the reaction had gone so far in Prussia that even the fusilier battalions used only a fraction of their men as skirmishers.

Many hard things were said of the Prussian army after its defeat; but it seems to have been painstaking, zealous, well drilled and disciplined. The muskets, says Clausewitz, were in a high state of polish, but they were the worst in Europe, and the artillery was inferior to the French. The chiefs were old men formed in the school of Frederick, where men learned to obey rather than to command. They followed the letter instead of the spirit of Frederick, who was ever on the watch to adapt himself to new conditions. There were cliques and jealousies among them, and the king's presence with the army made Brunswick only a nominal commander-in-chief. In Jomini's words, it was "a fine army, well trained and well disciplined, but without able leaders and without national reserves."¹

"It seems that what is most to be feared among the Prussians is their cavalry; but with the infantry you have, if you always take care to be able to form square, you have little to fear:" so wrote Napoleon to Soult (October 5, 1806). The affair at Saalfeld a few days afterwards showed that the Prussian cavalry was not a match for the French; and the mistake was made of distributing it among the divisions, so that it was disabled from playing any such part as it had done under Seydlitz.

The defeat of the Prussian troops at Jena (October 14) was hardly a reproach to them. They were outnumbered

¹ Jomini, i. 106.

ultimately by not to use. Heckerling was hampered by his instructions, was ill informed and allowed his divisions to be engaged and beaten one after another. At the crisis of the battle when he tried to recapture *Vierzehnheiligen*—instead of following Frederick's advice to use columns in such a case (see p. 175)—he let eighteen battalions remain halted in line for two hours, carrying on an ineffectual fire-fight with the French in the village. His aide-de-camp says: "The enemy's skirmishers took advantage of all the inequalities of the ground lay down behind them and fired into our ranks. Even their batteries were screened by the crests or sunk in the ground, so that only the muzzles of the guns could be seen. The skirmishers fell back under protection of these batteries or covered them when they changed position. We lost a lot of men without seeing an enemy."¹

But the battle of Auerstedt, fought on the same day, was a more conclusive proof of the superiority of the French soldiers, apart from the personality of the emperor, which Wellington reckoned as equivalent to 40,000 men. The main Prussian army under Brunswick, accompanied by the king, was retreating towards the north-east when it met the corps of Davout, which was marching in the opposite direction to take the Prussians in rear, on the assumption that they were still near Jena. There were 50,000 men under Brunswick of whom 9000 were cavalry. Davout had only 27,000 in all, and only 1400 cavalry. In guns (including battalion guns) he was outnumbered by five to one.

It was in the mist of the early morning that the cavalry of the advanced guard under Blücher encountered the leading French division (Gudin) at Hassenhausen. Blücher charged repeatedly but was beaten off. At 9 A.M. Friant's

¹ *Revue d'Histoire*, November 1906, p. 474.

division came up on the right of Gudin, and at 10.30 Morand's came up on the left. The French, who by that time were hard pressed by two Prussian divisions, now began to gain ground; and the arrival of a third Prussian division did not arrest their progress. Brunswick was mortally wounded early in the day, and at 2.30 the king gave orders for retreat, though two of his five divisions had as yet taken hardly any part in the battle. The retreat soon became a rout, and the Prussians were so demoralised that 3000 prisoners and 115 guns were taken by the small force of light cavalry at Davout's disposal.

The result was so astonishing that both Frederick William and Napoleon were at first incredulous as to the relative strength of the combatants. It was due partly to the tardiness of the Prussians, the want of mutual support between the three arms, and the neglect to make use of their reserves. Their generals were nearly twice the age of the French leaders: Brunswick was seventy-one, Möllendorf eighty-two, Kalkreuth sixty-nine, while the average age of Davout and his lieutenants was under forty. But it was due also to the admirable quality of the French officers and men, their trust in one another and ready co-operation, the tenacity with which they held their ground, and the boldness with which they took the offensive with no reserves behind them. The battle cost them more than 25 per cent. of their strength.

As Rossbach set the French to learn Prussian tactics, so Jena made the Prussians turn to French formations. The old belief that "in war everything depended on advance in echelon and vigorous attack by battalions" was shaken. The problem of satisfactorily combining linear tactics with the free use of skirmishers was dropped, and along with it went the control of musketry fire, on which so much stress had been laid. The column as a

fighting formation was introduced into the Prussian regulations in 1812, and was used in the war of liberation.¹

One should change one's tactics every ten years, Napoleon said; and by the time the Austrians and Prussians had adopted the French mode of fighting, the French were beginning to alter it, making their columns more massive but less handy. There were several reasons for the change. Napoleon's policy, especially in Spain, made ever increasing demands for troops, and in order to provide officers for the new levies, the infantry regiments were reorganised, the number of battalions being increased to five (including a depot battalion) and the number of companies in each of the four war battalions being reduced to six. The companies were made larger than before, having a strength of 140 officers and men; but when the grenadiers and voltigeurs were detached, as was usually the case, the battalion column formed a small unit of little more than 500 men.²

Such columns were rather feeble for attack, especially if the men were young and the officers few. It was by moral effect, rather than by actual use of fire or steel, that columns did their work; and the moral effect might be expected to increase with the size of the columns within the limits of mobility. The tendencies of Imperialism were against the independence and initiative which were characteristic of the battalion columns in the Republican days, and there was not room for them on the Napoleonic battle-field. At Eylau (February 8, 1807) Augereau's corps occupied a space of less than a mile. When he was ordered to attack, his two divisions had to advance in two columns, and then deploy their leading brigades while the rear brigades formed squares. During

¹ Goltz, p. 371.

² Correspondance, February 18, 1808.

this operation they were under a storm of fire from the enemy's guns; the Russian infantry advanced to meet them, the cavalry charged them, and the corps fell back in disorder, having lost 5000 men out of 12,000.¹

In 1809 the French had again to deal with the Austrians, who were now fighting in battalion columns, and were under the able leadership of the Archduke Charles. In the two chief battles of the campaign, Essling and Wagram, as at Austerlitz, Napoleon struck at the enemy's centre. At Essling (May 22) only part of the French army was on the left bank of the Danube, and it was necessary to gain ground to make room for the remainder. Lannes was ordered to advance between Aspern and Essling, a space of about a mile. He formed his three divisions in columns of regiments, and advanced in echelon from the right. When enough ground had been gained they were to deploy on an oblique line, refusing the left. The Austrians were falling back, the deployment had begun, and everything seemed to promise well, when news came that the bridges over the main arm of the Danube had been swept away, and Napoleon was obliged to withdraw his troops into the island of Lobau.

At Wagram (July 6) he himself superintended the formation of Macdonald's corps, which was to break through the Austrian centre, and he adopted the Austerlitz formation on a larger scale. Eight battalions were deployed, forming two lines of four battalions each, the second line was closed upon the first, and the remaining thirteen battalions were formed in close column on the two wings.²

¹ Extracts from Augereau's report are given in Marion's *Memoir of Senarmont*. He says nothing of the snowstorm on which Napoleon laid stress, as accounting for the disaster.

² Such is Macdonald's version (*Recollections*, p. 163). Lamarque says that his division was in column of deployed battalions one behind the other, but perhaps he refers to the wing columns.

The whole made three sides of a square (like the English at Fontenoy) numbering about 10,000 men, and the rear was closed by cavalry. The corps succeeded in its mission, but not without support, and it met with very heavy loss (at least three men out of four). Meanwhile on the extreme right Davout's divisions were fighting in battalion columns as in the old days, and driving the enemy before them.

"In the late wars there have been many instances," says Jomini,¹ "in which Russian, French, or Prussian columns have carried positions with supported arms, without firing a shot; it is the triumph of momentum and of the moral effect which it produces; but against the murderous fire and the *sang froid* of the English infantry, columns did not have the same success." The campaigns of '93 and '94, in which the English shared in the discomfiture of the allies, had taught the French to hold them cheap. So also in Holland in 1799 they were no match for the Republican troops when fighting in loose order among the sandhills.² In Egypt and at Maida they had shown their quality, but the disparagement of them remained practically undisturbed until the war in the Peninsula. A French officer noted in his diary after the battle of Corunna that the English had behaved well, and were not degenerate, as they were often said to be.³

In after years Marshal Bugeaud used to say, "The British infantry is the most formidable in Europe; luckily there is not much of it;" and he gave a vivid picture of the normal course of the battles between French and English, though he seems to have had little experience of them himself.⁴ Foy, who had ample experience, says

¹ Jomini, ii. 231.

³ Fantin des Odoards, p. 203.

² Bunbury, p. 26.

⁴ Trochu, p. 239.

that the English possess the most valuable of all qualities on the field of battle, self-possession in anger. The infantry is the best part of their army. Not so supple and swift as the French, they are more silent, cooler, more obedient; hence their fire is better aimed and more destructive. They have not the patience of the Russians under a cannonade, but they keep their formations better. When attacked they begin with volleys of battalions, followed by well-sustained file fire. In advancing they fire without breaking rank. Deployed in line, they do not hesitate to attack columns with the bayonet. But the leader who wishes to use this infantry without compromising it, must move it seldom and with caution, and must reckon more on its fire than on its manœuvres.¹

Marbot attributes the excellence of the British musketry to the large amount of target practice and to the formation in two ranks. So far as ordinary regiments of the line were concerned, there was no target practice. The absence of a third rank had no doubt some effect, allowing better aim; but the deadliness of British volleys had been recognised at Dettingen and Fontenoy, when there were three ranks. The regulations still regarded three ranks as the normal formation, but one of the first orders issued by Sir Arthur Wellesley when he landed in Portugal was, "The order of battle of the army is to be two deep" (August 3, 1808). If something more solid was needed, to resist cavalry for instance, the men were formed four deep.

The first important action fought in the Peninsula struck the keynote. At Vimiero (August 21, 1808) the leading French brigade, formed in one close column, and preceded by skirmishers, mounted a hill on which the 50th regiment was drawn up in line. The colonel (after-

¹ Foy, i. 207, 283.

wards Sir G. T. Walker) wheeled his right wing into echelon of companies about four paces to the left, to bring it to bear on the flank of the column.¹ Then he ordered a volley and a charge. The column was broken and driven down the hill.

At Busaco (September 29, 1810) Ney's columns were similarly repulsed by the Light Division. Those of Regnier, three columns of regiments, succeeded in establishing themselves for a time on the ridge which formed the British position; but they were attacked from both sides, and being unsupported they were at length driven down the mountain side.

The battle of Albuera (May 16, 1811) is, however, a more striking example of the success of line against column, because it was fought at great disadvantage, and was purely a soldier's victory. Soult was marching with 23,000 men to relieve Badajoz; Beresford was barring his way with 30,000 men, of whom only one-fourth were British. Skill and mobility enabled Soult to place the bulk of his troops on the right flank of the allies, threatening to roll up their line. A new front had to be formed hastily; there was some disorder and symptoms of retreat, which led Soult to push on with the fifth corps in its original close formation. It seems to have been in three contiguous columns of deployed battalions,² one division being behind the other, and the whole numbering about 10,000 men. On its left there was a force of 3500 cavalry, and there was a strong brigade of infantry as a reserve in rear.

Beresford had ordered up Stewart's division from the

¹ Fyler, p. 105.

² The fact that during the action "un passage de lignes" was ordered, though it could not be carried out, shows that the battalions were deployed (*Victoires, Conquêtes, &c.*, xx. 241, &c.).

original centre, to support the Spaniards on the right. By the time it arrived the Spaniards were giving way. Colborne, who commanded the leading brigade, wrote two days afterwards: "We were brought up under very disadvantageous circumstances, and obliged to deploy under the enemy's fire. The regiments were ordered to charge before the deployment was complete, and without support; in the act of charging two very heavy columns, a regiment of Polish cavalry passed by our right, which was unprotected, and having gained our rear, the three right-hand regiments were almost destroyed."¹ The fourth regiment, which was left behind, held the ground until Hoghton's brigade came up in line and relieved it. The three battalions of that brigade sustained the fight for some hours, holding the fifth corps in check; but the fire was so heavy that one of them (the 57th) lost three-fourths of its men, earning the name of "the Diehards."

Two brigades of Cole's division—one British and one Portuguese—had joined the army just as the battle began, and had been placed by Beresford about half a mile to the right rear of the new front, to cover his line of retreat, with strict injunctions to remain there. But the situation had become so grave that while Beresford was fetching Portuguese reinforcements, Cole allowed himself to be persuaded to attack the French columns in flank. In doing this he ran risk of being attacked on his own right flank by the enemy's cavalry, which was very superior to that of the allies. He advanced, therefore, in echelon from the left, two battalions of the British (fusilier) brigade being deployed, and the third in quarter distance column, forming square at every halt, to cover the right of the brigade. The Portuguese echelons followed, and a volley

¹ Moore-Smith, p. 160.

from them drove off the Polish lancers when they tried to fall upon the fusiliers.¹

While Cole was advancing, Abercrombie's brigade of Stewart's division deployed to the left of Hoghton's brigade, and the French columns found themselves simultaneously assailed on both flanks. The scene that followed has been described once for all by Napier. The French, enveloped and unable to extend their front, or to make effective reply to the convergent fire to which they were exposed, became discouraged. There was "un mouvement très prononcé de fluctuation";² the leading regiment, having lost 600 men, gave way, and the others followed in succession. The fifth corps became a confused mass of fugitives which could not be rallied till it reached the ground from which it had started in the morning. The total French loss in the battle seems to have been 7000.³ That of the allies was about the same, and half of it fell on the British infantry, being a loss of two men out of three.

A few weeks before Albuera, an action was fought at Sabugal (April 3) between the Light Division, 3000 strong, and Regnier's corps of 11,000 men. In this action, which Wellington described as "one of the most glorious that British troops were ever engaged in," they were the assailants, and bad weather delayed the two other divisions which were to have co-operated with the Light Division. In a private letter Wellington said: "We have given the French a handsome dressing, and I think they will not say again that we are not a manœuvring army. We may not manœuvre so beautifully as they do, but I don't desire better sport than to meet one of their columns *en masse* with our lines."

¹ *Journal of the R.U.S. Institution*, xxxix. 903, &c.

² Lapène, p. 162.

³ Napier, vi. 313.

The question presents itself, how was it that the French skirmishers had no such effect on the British lines as they had on the Prussians at Jena. For one thing, Wellington placed his battalions, if he could, where the ground gave them some cover, behind the crest of a ridge, for instance, or made them lie down, instead of letting them be a target for artillery and musketry. But in any case the British skirmishers were more of a match for the French than the Prussians had been. The tradition of light infantry fighting, formed in America, had never quite died out. In 1798 Lord Cornwallis wrote to Arthur Wellesley, with reference to the threatened invasion of England: "The system of David Dundas and the total want of light infantry sit heavy on my mind."¹ But apart from light companies, a regiment of light infantry had been raised in 1794 (the 90th Perthshire Volunteers, now the second battalion of the Scottish Rifles). In 1800 a corps of riflemen was formed, which became the 95th and then the Rifle Brigade. William Stewart, who commanded one of the divisions at Albuera, was its lieutenant-colonel; and he borrowed his system of training from German sources, having served with the Austrians in the campaign of 1799 and watched the Tyrolese Jägers. His system was in its turn the foundation of the Shorncliffe drill, by which Sir John Moore formed the regiments of the Light Division. In the Peninsula those regiments (43rd, 52nd, and 95th) were brought by Craufurd "to a state of discipline and knowledge of the duties of light infantry which never was equalled by any division in the British army, or surpassed by any division of the French army."² There were also good foreign corps of light troops serving under Wellington, such as the Portuguese Caçadores, the fifth battalion

¹ *Cornwallis Correspondence*, ii. 333.

² Sir George Napier, p. 224.

of the 60th (formed as a rifle battalion in 1797), and two battalions of the King's German Legion.

The divisions of the Russian army consisted of three brigades, one of which was a Jäger brigade; but it did not differ essentially from the others. The Russians did not take readily to light infantry work; they fought best in line or column. There were six battalions in a brigade, and four companies of 250 men in a battalion. They made use of battalion columns, having a front of one company and a strength of 1000 men, for the grenadiers were not detached.¹ The battle of Borodino (September 7) was the only pitched battle of the campaign of 1812. The French owed their victory, so far as it deserves the name, mainly to their cavalry and artillery. Napoleon rejected Davout's proposal that he should turn the Russian left, lest the enemy should retire without fighting, and deliberately took the bull by the horns. He had 125,000 men massed in a space of less than three miles, but he found once more how difficult it was to dislodge Russians by a front attack, especially when they had the help of intrenchments. The final attack on the grand redoubt was made by a brigade which had in first line two battalions deployed flanked by two in column, and in second line four battalions deployed; but the redoubt was actually carried by cuirassiers, who made their way into it by its open gorge.

In the war of liberation (1813-14) both sides fought in the French fashion, but the French armies consisted largely of boys called up before their time. It was only the genius of Napoleon, and the experience and capacity of the officers of all ranks, that enabled them to make head against the allies, who had the advantage in quality,

¹ Rüstow, ii. 331.

and latterly in numbers also. There was no want of dash in the young conscripts, but they lacked strength and were demoralised by defeat. "Every Frenchman is a soldier in six weeks, an advantage appertaining to no other state," wrote Sir Robert Wilson after the battle of Leipzig;¹ but quickness could not make up for immaturity, and the wastage was great. "It is the massacre of the Innocents over again," said Drouot, as he saw the conscripts falling at the battle of Laon.²

It was a very different army that Napoleon led against Blucher and Wellington in 1815. The men were seasoned soldiers, devoted to their emperor and eager to fight; but the brigades and some of the regiments were newly formed, officers and men did not know one another, and many of the generals were suspected of disloyalty. The material was excellent, but it was loosely held together.³ The Prussians had the advantage in this respect; the officers were experienced and trusted by their men. Most of the men had served in the war of liberation, and they were animated by love of country and hatred of the enemy. The reforms introduced by Scharnhorst had taken effect by this time. The obligation to serve was universal, but it was settled by lot which men should join the colours. After three years they passed to the reserve, and two years later to the landwehr, which had its own regiments distinct from the standing army. There was a first and a second call of landwehr, and the men spent seven years in each. One-third of Blucher's infantry was landwehr. At Ligny (June 16) the forces engaged were nearly equal, but the French were weaker in infantry, stronger in cavalry and guns. Wellington thought the Prussians were badly drawn up, and predicted that they would be "damnable mauled." They were dotted about

¹ Wilson, ii, 185.

² Ségur, p. 347.

³ Charras, p. 61.

on ground falling to the front, making good targets for artillery, and they had undertaken to defend two villages (Ligny and St. Amand) which lay too far in advance of their position. The battle was mainly a fight of battalion columns for the possession of these two villages. At the end of five hours the Prussians were beaten, but they retreated in the night unpursued, and were able to promise Wellington that they would come to his assistance two days afterwards.

The army with which Wellington, relying on Prussian aid, made his stand at Waterloo (June 18), numbered nearly 68,000 men. But out of 50,000 infantry less than 15,000 were British; 4500 belonged to the King's German Legion; the rest were Dutch-Belgians of doubtful staunchness, or newly raised Germans. In point of numbers, Napoleon's army was equal to Wellington's in infantry, superior by one-fourth in cavalry, and had five guns to three.

Reille, who had seen much service in Spain, was questioned by the emperor about the English army, and said that "in a good position, such as Wellington was accustomed to choose, he considered it invincible by a front attack, because of the calm tenacity and good shooting of its infantry. Before one could attack it with the bayonet one might expect to lose half one's men; but it was less supple, less ready in manœuvring than our own." He advised Napoleon, therefore, to manœuvre, but was met by an exclamation of incredulity.¹ At St. Helena Napoleon praised Turenne for always observing two maxims: "(1) Do not make front attacks on positions which you can gain by turning them. (2) Do not do what the enemy wants you to do, and avoid it just because he wants it. Shun the battle-field which he has

¹ Ségur, *Mélanges*, p. 273.

reconnoitred and studied, much more that which he has fortified and where he is intrenched." ¹

But at Waterloo he disregarded these maxims. It was Wellington's hope that he would be attacked in front, and he would allow of no intrenchments lest they should discourage a front attack. His fear was that Napoleon would turn his right, and move on Brussels by the Hal road, as the French had done in 1794, after Fleurus. To guard against this contingency, he left nearly 15,000 men at Hal, though he could ill spare them.

Wellington had chosen his ground, as usual, so that his troops should have cover. The position was two miles long, and was divided in half by the Charleroi-Brussels road, which ran at right angles to it. Napoleon saw that the right (or western) half was held in more strength than the left, and he decided to make his main effort against the left. If he succeeded, the troops on the right would be cut off from the Brussels road and from the Prussians. He reckoned that the chances were nine to one in his favour, as the English were the only good troops in the allied army. ²

The attack was made about 1.30 p.m. by the four divisions of D'Erlon's corps, numbering nearly 17,000 men. It had been prepared by the fire of eighty guns placed on a spur 600 yards from the position. The divisions advanced in columns of deployed battalions with intervals of 400 paces between them. One brigade of Alix's division (formed in column of attack) moved upon La Haye Sainte by the Brussels road; the other brigade (four battalions) was on its right. To the right of Alix's division came Donzelot's (nine battalions), then Marcognet's (eight battalions) and Durutte's (eight battalions). West of the Brussels road, a division of Reille's

¹ Napoleon I., xxxii. 133.

² *Ib.*, xxxi. 187.

corps moved forward in support, with a division of cuirassiers.

The part of the position against which this attack was directed was held by two brigades of Picton's division (3000 men) and two Hanoverian brigades (5000 men). In front of them was Perponcher's Dutch-Belgian division (4300 men), Bylandt's brigade being on the forward slope, and Saxe-Weimar's holding hamlets on the left. The French columns advanced in echelon from the left, and Bylandt's brigade gave way before them. The skirmishers of Picton's division were driven in, and the gun detachments of the twenty pieces which were on the crest of the ridge had to leave their guns. The right brigade of Alix's division had nearly reached the Wavre road, which ran along the crest, when it was met by a volley and a charge from Kempt's brigade, and was thrown into confusion. Donzelot's column crossed the road, and part of Pack's brigade fell back in disorder; but the Union brigade of dragoons (1000 sabres, Royals, Inniskillings, and Scots Greys), passing through the intervals of the British line, fell upon the French infantry, which broke and fled down the slope and across the valley. The right column (Durutte) was less severely engaged, but fell back when the others were routed. The loss of the corps, including prisoners, is reckoned at 5000 men.

The unexpected charge of the British cavalry, which gave the French no time to form square, was the main cause of their defeat; but they had suffered much in their slow approach over sodden ground covered with standing crops. De Lacy Evans says: "The enemy's column [Donzelot's] near which I was, on arriving at the crest of the position seemed very helpless, had very little fire to give from its front or flanks, was incapable of

deploying, must have lost many of its officers in coming up, was fired into, close, with impunity, by stragglers of our infantry who remained behind."¹

The attack of D'Erlon's corps was to have been supported by Lobau's corps, but it had already become necessary to send the latter eastward to hold the approaching Prussians in check. Before the end of the day nearly half of the Imperial Guard was sent to help Lobau, so that the troops available against Wellington were reduced by one-fourth.

Nevertheless, and though the grand attack had failed, the strain on the British became very severe as the day wore on. "It has been a damned nice thing—the nearest run thing you ever saw in your life:" so Wellington told Creevey next day. The capture of La Haye Sainte (towards 6 P.M.) enabled the French skirmishers to establish themselves within sixty yards of the centre of the position, and to bring up guns; while the incessant charges of the French cavalry kept the allied infantry in squares. The 27th regiment had more than two-thirds of its men shot down; the 30th and 73rd, formed in one square, lost 40 per cent. Kielmansegge's Hanoverian brigade suffered so much that it gave way, leaving a gap in the position; and some Nassau troops, brought up to fill the gap, also gave way, and fired at Wellington when he tried to rally them. But the head of a second Prussian corps (Ziethen) was by this time within two miles of the allied left, and soon allowed the Duke to draw some of his troops from that part of the position.

About 7.30 P.M. Napoleon sent forward the Guard to decide the battle, as it had decided that of Ligny at the same hour two days before. But of the twenty-

¹ Waterloo Letters, p. 61.

four battalions were engaged with the Prussian seven were kept back as reserves and only seven took part in the attack. These were all of the Middle Guard and with one battalion left behind they made up its five regiments. The average strength of the battalions was 700 men. They were at first formed in squares the weaker battalions being coupled so that there were two squares of grenadiers on the right and three of chasseurs on the left.¹ They advanced in echelon from the right and the five squares seem to have become two columns, one of grenadiers leading, and one of chasseurs following to its left rear. They were directed, not against the weakened centre of the position but towards the right, where Maitland's brigade of Guards (1700 men), was posted, with Adam's brigade (2500 men) on its right.²

The two brigades were formed four deep to meet the attack, as the Duke expected that cavalry would take part in it: and the men were lying down behind the crest of the ridge. When the column of grenadiers had come within fifty paces, the Guards rose, fired a volley, and charged: the column, "crippled and broken, retreated with the utmost rapidity,"³ says General Maitland, and the Guards, after pursuing it down the slope, returned to their position. The second column (chasseurs) soon approached the right of Maitland's brigade; but Colborne, colonel of the 52nd (of Adam's brigade), wheeled his regiment 70° to the left, so that its front was nearly parallel to the flank of the column, and advanced upon it in two lines, throwing out one company as skirmishers. The column halted, and its

¹ Houssaye, pp. 389, &c.

² *United Service Magazine*, April 1900, pp. 58-65, "The Last French Charge at Waterloo."

³ *Waterloo Letters*, p. 245.

flank sections wheeled up to form a line facing the 52nd; but when that regiment charged, it broke "into the wildest confusion," and fled to the low ground south of La Haye Sainte.¹

The troops of D'Erlon's corps had renewed their pressure on the allied centre and left when the Imperial Guard advanced, but they fell back when they saw it was beaten, and soon the whole French army was in flight.

"Never did I see such a pounding match. Both were what the boxers call 'gluttons.' Napoleon did not manœuvre at all. He just moved forward in the old style, in columns, and was driven off in the old style. The only difference was, that he mixed cavalry with his infantry, and supported both with an enormous quantity of artillery. I had the infantry for some time in squares, and we had the French cavalry walking about us as if they had been our own. I never saw the British infantry behave so well."²

Such was Wellington's account of the battle to Beresford a fortnight afterwards.

¹ Waterloo Letters, p. 293.

² Gurwood, p. 872.

IX

THE NINETEENTH CENTURY: I. (1816-1866)

BITTER experience set the continental powers to the work of amending their military institutions during and after the Napoleonic wars. England had fared better, and had reason to be proud of the part which her soldiers, as well as her sailors, had played. There was strong popular pressure for retrenchment, but none for reform in army matters. The limited Enlistment Act, passed in 1806, had not fulfilled Windham's anticipations, and in 1829 it was dropped, to be revived in a different form twenty years later. Recruits were tempted by bounties to engage for life, and flogging was freely used to check desertion and maintain discipline. The well-earned weight of Wellington was on the side of conservatism. He regarded it as inevitable that the British soldier should be drawn from the dregs of the population, and should be subjected to a more severe system than was needed for soldiers drawn from all classes under conscription. There was a difference, too, in the officers: "The duty of a subaltern officer, as done in a foreign army, is not done at all in the cavalry or the British infantry of the line. It is done in the Guards by the sergeants."¹

The militia, as remodelled by the elder Pitt in 1757, was raised by ballot, but substitutes were allowed. In the great war the militia was embodied, and the price of substitutes rose high (to £60 or more). This interfered with

¹ Gurwood, p. 920.

recruiting for the regular army, which was allowed, therefore, to obtain men from the militia. About 40 per cent. of its recruits were drawn from this source,¹ and they were men already trained; so that the militia became a feeder to the army, as well as a reserve. In 1808 a "local militia" was created, to be raised by ballot without substitutes, but its ranks were mainly filled by means of a small bounty. At the end of 1813 this force numbered nearly 300,000 men, the volunteers and yeomanry 65,000, the general militia 83,000, and the regulars 237,000, making a total of 685,000 men found by a population of less than twenty millions. After the peace of 1815 the Ballot Act was suspended, the volunteers disappeared, the militia and yeomanry became mere cadres, and the army was reduced to about 100,000 men. It was an aggregate of regiments, without higher organisation, without transport, and with few opportunities of training outside the barrack square.

The linear tactics had served the British so well that they remained substantially unchanged. The formation in two ranks, which had long been customary, received official recognition in 1824; and the drill-book of that year also took account, for the first time, of the training of light infantry. Otherwise there was little alteration in the system of infantry movements which Dundas had borrowed from the Prussians; and even fifty years later it could be said that "the fighting tactics of Frederick the Great, improved by the Duke of Wellington to suit the arms of his day, are still alone to be found in our Field Exercise Book."²

It was much the same with the French regulations: those of 1831 followed the general arrangement and the spirit of Guibert's compilation of 1791, and the regulations

¹ Goodenough, p. 23.

² Wolseley, p. 273.

of 1862 were on the same lines as those of 1831.¹ The drill-book of 1791 lent itself, as already pointed out (p. 183), either to column or linear tactics. Some military writers (*e.g.* Rogniat), influenced by the British victories, advocated the habitual use of line rather than column, whether for attack or defence. Bugeaud was inclined to favour it, because it alone "allows infantry to make use of its fire, which is its main strength."² Morand, one of the most distinguished of the divisional generals of the Empire, maintained that no formation suited the various contingencies of the battle-field so well as the battalion column, formed on the centre by divisions (or double companies) at platoon distance. The columns should be in one or two lines, with deploying intervals between them, with their light companies skirmishing in front, and their grenadiers as a reserve in rear.³ Jomini also held that battalion columns formed the best order of attack. All agreed in blaming the massive columns which had been made use of in the later years of the Empire: "Such masses are exposed to the ravages of artillery, and involve a loss of mobility and momentum without any gain of strength."⁴

The formation of infantry in two ranks, instead of three, was much discussed. Jomini thought it would be of advantage as diminishing the depth of columns; but "what European army (except the English) could be trusted in line only two deep."⁵ The Archduke Charles had come to the conclusion, after trial with Austrian troops, that a third rank was necessary for a bayonet charge or to resist cavalry, and desirable for a steady advance and for musketry fighting.⁶ Four days before the battle of Leipzig Napoleon had issued orders that all

¹ Trochu, p. 210.

² Morand, pp. 137, &c.

³ Jomini, ii. 226.

⁴ Thiry, p. 10.

⁵ Jomini, ii. 228.

⁶ Karl, pp. 4, &c.

the infantry should be formed two deep. This was partly in order that the battalions might seem to the enemy to be half as strong again as they were, but also because he was satisfied that the fire of the third rank and the bayonet of the third rank were of no value.¹ Indeed they were worse than useless, for they caused so many injuries among the young conscripts that Napoleon at first believed they were mutilating themselves on purpose. As St. Cyr says, whatever may be laid down as to the first rank kneeling when the three ranks have to fire, or the third rank only loading for the second, all ranks will fire, with or without orders, when they hear the bullets whistle past their ears.² Marmont declared that there was nothing to justify a third rank; nevertheless it was retained as an optional formation in the French service till 1859, and even then old soldiers shook their heads at its abandonment on the eve of a war.

In the Prussian service also the third rank was retained, but it was to be used in the field for skirmishing; so that the battalion was practically two deep in line, or eight deep in column, formed on the two centre subdivisions.³ The strength of the battalion was 1000 men, on a war footing; but, mainly for the sake of economy, it consisted of four companies only. After the peace of 1815 there was a reaction towards the rigid close-order drill of the old school, as the best training for short-service soldiers. The king, Frederick William III., inclined that way, as did his second son, afterwards William I. The drill-book of 1812, inspired by Scharnhorst, was supplemented by a series of orders which restrained the freedom it had given to commanders.⁴ The inspections of the troops took place on the drill-ground, and were concerned with movements in close order.

¹ Correspondance, October 13, 1813.

² Gouvion St. Cyr., vol. i. p. xliv.

³ Rüstow, ii. 322.

⁴ Blume, p. 90.

After the accession of Frederick William IV. the advocates of progress met with more attention. A new drill-book, issued in 1847, gave full recognition to the company column as a handy alternative to the battalion column. The company column was six deep or twelve deep. To meet the varying requirements of the skirmisher-fight it was found better to use whole companies as units than to depend on the third-rank men. The two flank companies were sent forward to form the skirmish line and its supports, the two centre companies (or at least one of them) being kept in column as a reserve. This led to more independent action on the part of the captains of companies, who passed to some extent out of the control of the battalion commander.¹

The methodising of skirmishing, the full development and maintenance of musketry fire as a preparation for the decisive shock by columns, and in combination with the action of artillery and cavalry, had become the chief military problem; and its importance grew with every improvement in fire-arms. After prolonged trials, flints were superseded by percussion caps, which reduced misfires to insignificance, lessened recoil and improved the shooting, both in accuracy and rapidity. A percussion musket was adopted for the British infantry in 1842. Even with this improved weapon it was found that half the shots missed a six-foot target at 200 yards.

It had long been known—at all events from the middle of the sixteenth century—that better shooting was obtained from rifled barrels. But they were expensive, and the gain in accuracy was counterbalanced by difficulty and delay in loading, as the spherical bullet had to be forced down (sometimes with a mallet) to take the grooves. They were used at first for target shooting and

¹ Rüstow, ii. 354.

sport. In the latter part of the seventeenth century some of the German princes employed mountaineers as sharpshooters, who brought their rifles with them. Louis XIV. followed the example, and in 1679 he ordered that two men in every company of horse should be armed with rifled carbines. As in the case of the grenadiers, these carbineers were soon gathered into separate companies, and the companies brought together into brigades, forming one of the most distinguished corps of the French army. Rifled arms were also supplied for two men in every company of foot. The bullets were made of two sizes, the smaller to be used when speed in loading was more important than accuracy.

The corps of Jägers and chasseurs raised in the latter part of the eighteenth century were armed with rifles, wholly or partially. The British corps formed in 1800 (which ultimately became the Rifle Brigade) had the Baker rifle, 2 feet 6 inches in length of barrel, and with bullets 20 to the pound. A marksman was expected to hit a target 4 feet in diameter twice out of three times at 200 yards, but the rate of firing was only one round per minute. The need of special ammunition for riflemen was a drawback; it was the cause of the loss of La Haye Sainte at Waterloo. The Jägers of the King's German Legion who formed the garrison expended all their cartridges, and the reserve supply could not be found.¹

Napoleon laid stress on uniformity of armament, and rifled carbines were provided only for the officers and under-officers of the voltigeurs, not for the men.² France alone had no corps of riflemen, until improvements mainly due to French officers gave rifles a new value. Spherical bullets were replaced by elongated bullets hollowed at the base, which were expanded to take the

¹ Ompteda, p. 309.

² Correspondance, March 13, 1804.

rifling by the explosion of the powder charge. This not only got rid of the difficulty of loading, but gave increased range and accuracy and allowed the calibre to be reduced. The change, worked out during the second quarter of the nineteenth century, produced a weapon so superior to the smooth-bore musket that it was bound to supersede it.

The Minié rifle was introduced into the British service in 1851 for the infantry generally; it was replaced by the Enfield pattern four years afterwards. In Austria and Russia the course adopted at first was to arm a certain number of men in each company with rifles. The French had formed, in 1838-40, a special corps of *chasseurs à pied*, trained to manoeuvre at five miles an hour (*pas gymnastique*). These troops were intended for service in Algeria. They were armed with rifles (*carabines à tige*) and sword bayonets. The number of battalions, ten in 1840, rose to twenty in 1853, and they became the light infantry of the French army. There was another special corps, the Zouaves, which was raised for Algerian warfare. Named after a tribe of Kabyles the (Zouaoua), it was meant to consist mainly of natives, and the uniform was a modified Eastern dress. But many of the natives deserted at Abd-el-Kader's call in 1839, and the African element was reduced to one company in each battalion. Trained by Lamoricière to work and to fight, like the Roman legionary, and constantly in the field against a mobile enemy, the Zouaves became a model of efficiency, a picked corps to which officers and men sought admission. In 1852 they were raised to three regiments of three battalions each, and soon afterwards they were armed with rifles.¹ The French infantry generally were not so armed till 1857.

¹ [Aumale], pp. 11-89.

A breech-loading rifled musket (the needle gun) had been invented by Dreyse, and was adopted by the Prussian Government in 1841. A stock of these arms was gradually accumulated in the arsenal at Berlin, to be issued to the troops in case of war, and take an enemy unawares. The disturbances of 1848 put an end to all secrecy about this weapon, and the whole of the Prussian infantry was gradually provided with it between 1853 and 1858.¹ Seven shots a minute could be fired with it; but there was much doubt abroad as to its suitability for general use in the field. As regards the effective range and accuracy of musketry fire, they may be said to have been increased fourfold by the adoption of rifles with elongated bullets. But men must be good shots to turn the new arms to full account, and much more attention began to be paid to instruction in musketry. So little had been done in former days that we find Berthier giving orders, on the eve of passing the St. Bernard in 1800, that all the conscripts should fire a few shots, "that they may know which eye to aim with and how to load their muskets."² Napoleon in 1811 approved of target practice for the recruits, but desired that inferior powder should be used for it.³

After nearly forty years of peace between the great powers, came the Crimean war, and for the first time British troops encountered Russians. Each adhered to their old tactics, and it was once more line against column. At the battle of the Alma (September 20, 1854) two-thirds of the Russian army held that part of the position against which the British attack was directed, so that the numbers there were equal—24,000 on each side.

¹ Rüstow, ii. 375.

² Derrécagaix, i. 399.

³ Correspondance, October 30, 1811.

The Russians had the advantage in guns and cavalry. On arriving within a mile of the Russian batteries, four divisions of British infantry deployed into two lines, with one battalion of riflemen thrown forward as skirmishers. The troops then advanced under a heavy fire of artillery. They had to pass through vineyards, and to cross a stream with high banks; and on the right a village which had been set on fire stood in their way. Consequently the attack was begun, not in orderly lines, "but with such attempts at lines as the men themselves, instinctively seeking their own companies, succeeded in making, that is to say, a line chiefly of groups and masses."¹ Some battalions had to reform column, and two on the left formed square to resist cavalry.

Codrington's brigade of the Light Division, with the two battalions to right and left of it, advanced upon the main battery and carried it, the guns being withdrawn from it on their approach. But a heavy Russian column of four battalions, supported by others, forced them to fall back to the stream, having lost 25 per cent. of their men. There they were relieved by the brigade of Guards, which advanced in better order, drove back the Russians, and reoccupied the battery. The French had crossed the Alma lower down, and had climbed the heights, meeting with comparatively little resistance. They now threatened the left flank of the Russians, who after three hours' fighting retreated on Sebastopol. Their loss had been very heavy, double the loss of the allies.

Nearly all the British infantry were armed with rifles, but only a small proportion of the Russians. Moltke, commenting on the battle ten years afterwards, attributed their defeat partly to this difference of armament,

¹ Hamley, p. 56.

partly to their neglect of intrenchments and reliance on bayonet attacks by massive columns. At the same time he pointed out that the British line had become "an irregular chain of skirmishers, in which the men, not only of different companies, but even of different regiments, got so mixed up together that it became no longer possible to fire volleys, or to make any regular movements."¹ His conclusion was that small columns are best for attack, line for receiving attack, and that the Prussian system of company columns meets all contingencies.

At the battle of Inkerman (November 5) the parts were reversed: the Russians were the assailants. Under cover of the morning mist, 15,000 men suddenly attacked the Inkerman plateau, which formed the right of the British positions. They were supported by a powerful artillery, and were confronted by only 3600 men; yet they were driven back so shattered and disorganised that they could not be brought forward again. By the Czar's order the leading troops had been formed in company columns; but owing to the cramped space and broken ground they soon gathered into dense crowds on which the British fire told very severely. The rifle was of even more service here than at the Alma; the Russian gunners were shot down at a range of half a mile. The British line again resolved itself into a chain of knots and groups of men fighting independently.

Renewed attacks were made by fresh regiments, for 36,000 men had been directed against the plateau; and these attacks were pushed with more vigour, and met with some success. "What a slaughter yard!" said General Bosquet, as he rode past the Sandbag battery, which was taken and retaken several times. But the

¹ Moltke, pp. 61, 332.

numbers of the allies rose to 12,000, of whom more than half were French; their artillery became predominant; and by midday the Russian general recognised that his attempt had failed. It had cost him over 10,000 men, more than three times the loss of the allies. Making all allowances for the difficulties attending it, it ought to have succeeded. Fifty years afterwards an eyewitness wrote of the Russian assault on the Motien-ling (July 17, 1904): "It is passing strange that soldiers so steady and formidable in retreat should be so slow and so sticky in the attack. They exposed themselves for a time with admirable coolness to heavy losses in inferior positions. Then, with equal indifference to danger, they withdrew to their camp."¹

Towards the end of the siege the Russians made another attack in force upon the intrenched positions on the Tchernaya, held by 18,000 French and 9000 Sardinians (August 16, 1855). The Russians brought up 48,000 infantry, 10,000 cavalry, and more than 300 guns. They twice forced the Traktir bridge over the river, and pressed up the slope of the French position; but were driven back again by the charge of the French infantry, and at length retreated, having lost 8000 men. They showed astonishing fortitude and tenacity in defence of their own works, but in the field they certainly fell short of their old achievements in the wars of Frederick and Napoleon. Their strength had always lain in shock tactics, and the increased effect of fire-arms would in any case have told against them, even if they had been as well armed as their opponents.

If the French happened to play a secondary part at the beginning of this war, they made up for it afterwards; and by storming the Malakhov they took Sebastopol. An

¹ Hamilton, ii. 279.

Italian officer who was present at the siege praised the extraordinary solidity of the English, but found them otherwise inferior to the French in the art of war: less skilful in manœuvring, less vigilant against surprise, and less fit to look after themselves in respect of shelter and subsistence.¹

The war of Italian liberation in 1859 gave better opportunities of judging of the army of the Second Empire. It contributed two-thirds of the Franco-Sardinian forces, which, like the Austrians opposed to them, numbered about 200,000 men. The French regiments of the line were still only partially armed with rifles, and the Lorenz rifle with which the Austrians were armed was better than the French weapons. On the other hand, the French had some rifled guns, which now appeared for the first time on the battle-field and doubled the effective range of artillery.

Under the law of 1832 only about one in four of the young men who reached the military age was called up to serve in the French army, and the term of service was seven years. Substitutes were allowed, and in 1855 the State undertook to provide them, exonerating conscripts for a fixed payment. The result was that one-third of the men in the ranks had more than seven years' service, having been tempted to re-engage by bounties and pensions. This system suited Napoleon III. on political grounds, and was in harmony with the views of his uncle, who said that soldiers should be encouraged by all means to remain with the colours.² In the Austrian army the term of service was eight years, but men were kept only two or three years with the colours; "and the young Austrians were no match for the unyielding tenacity which distinguished the French regiments, stiffened by

¹ Govone, p. 85.

² Napoleon I., xxxi. 304.

long years of service, and by previous experience of war."¹ Two-thirds of the French subalterns and captains had risen from the ranks, but only a small proportion of the staff or commanding officers. The Austrians and French were organised in army corps; the Sardinians in strong divisions which included two battalions of sharpshooters (*bersaglieri*). The Austrians had reserve divisions of cavalry outside the corps organisation.

At Montebello (May 20), the first action of the war, a reconnaissance in force made by five Austrian brigades was brought to a check by a single French division, which inflicted on them a loss double its own. "The French distinguished themselves by tactical skill, good use of the ground, and above all by a vigorous offensive."² The Austrian commander was led to report that he had been engaged with at least 40,000 of the enemy. This information, which was quite misleading, was regarded by Gyulai, the commander-in-chief, as a most valuable result of the reconnaissance, justifying his own dispositions.

At Magenta (June 4) the French infantry again showed itself very superior in energy and perseverance, in sagacity and initiative.³ The frontal attack on the canal which formed the Austrian line of defence was made some hours before Macmahon was ready to support it by his flank attack from Turbigo. The bridges were stormed by the grenadiers and Zouaves of the Imperial Guard, and were held against three times their own numbers until other corps came up. As in the days of the Revolution, the French attacked in battalion columns of double companies covered by skirmishers; whole battalions sometimes fed the skirmisher-line; and its fire told very severely on the Austrian columns.

The same qualities were shown at Solferino (June 24).

¹ [Moltke], p. 185.

² *Ib.*, p. 50.

³ *Ib.*, p. 96.

As Chesney says: "The capture of the hill of Solferino was the fruit of long light infantry training, improved by experience in rough Algerian skirmish, and stimulated to the utmost quickness consistent with order by the example of the dashing Zouave—the pattern of such soldiers—and by the natural intelligence of the French recruit."¹ But a more remarkable feature of this battle was the prolonged and successful stand made in the plain of Medole, mainly by Niel's corps, against the three corps which constituted the first Austrian army. The French, though superior in cavalry and artillery, had only 30,000 infantry here to oppose to 50,000; and the men were for the most part armed with smooth-bore muskets. According to Niel, "so long as it was a musketry fight I lost ground, owing to the enemy's advantage in number. Then I formed a column of attack with one of the battalions of my reserve, and we won back with the bayonet more than we had lost with the fusilade."² Three successive efforts on the part of the Austrians failed; and the French had begun to take the offensive in this part of the field, when a violent thunder-storm put an end to the battle. The loss of Niel's corps was over 20 per cent.

A general order issued by the French emperor shortly afterwards directed that, when fighting on the defensive, "the lines of infantry will be disposed, when the ground permits, alternately in battalions deployed and in battalions in double column; useless fire of skirmishers will be avoided; and while the deployed battalions engage in file-firing, the others will beat the charge and attack the enemy with the bayonet."³

The French troops had, as of old, the defects of their qualities. Napoleon III. had thought it necessary to

¹ *Edinburgh Review*, January 1866.

² Duquet, p. 288.

³ Hamley, *Operations of War*, p. 323.

caution them at the beginning of the campaign: "In battle remain in close order, and do not leave your ranks to rush forward. Be on your guard against too much dash; that is the only thing I am afraid of."¹ Those impetuous rushes, well described as a *fuite en avant*, under provocation of the enemy's fire, were frequent incidents according to Trochu, who was one of the best divisional commanders. He attributed them largely to Algerian warfare, which had developed individualism to excess; for though the French temperament was always vehement, it had shown itself capable of self-control in the great wars.² He complained also of the enervating effect of picked corps, such as the Imperial Guard (revived in 1854) and the *chasseurs à pied*, which made the mass of the army a mere residuum. At the same time he recommended that each battalion should have its company of sharpshooters, as he was convinced that the ordinary soldier never aims in action.

But Trochu was an exception. The war of 1859 left the French army as a whole well pleased with itself, and with a good opinion of its opponent. It was the received belief that Austria came next to France as a military power, and that the Prussian army was little better than a militia, looking well on paper but unfit for war.

Before this belief was put to the proof there was a war on the other side of the Atlantic which in scale and character was unprecedented. It is reckoned that the number of men taking part in it at one time reached a million and a half, and that the total loss of life was half a million. Never was so much inventiveness and resource brought to bear on a war, or such lavish expenditure. "No European general has yet been called upon to carry

¹ [Olberg], p. 24.

² Trochu, p. 204.

on a campaign in a wilderness of primeval forest, covering an area twice as large as the German empire, and as thinly populated as Russia. Nor has any government been obliged to organise enormous armies for the invasion of such a territory from a multitude of untrained and inexperienced civilians, with the help of a handful of regular officers, and to manufacture, to collect and issue, the whole of the *matériel* needed for their use.”¹

The regular troops of the United States numbered 17,000 officers and men at the outbreak of the war. They were not all immediately available, being scattered in small detachments on the western frontier, to guard it against Indians; but they did something to stiffen the earlier armies of the North. Of the officers, about one-third resigned, and entered the service of the Southern Confederacy; the rest, so far as they could be spared from their regiments, were used for staff and technical duties and for the higher commands. There were also many retired officers, who had received a military education at West Point, and had perhaps served in the Mexican war. But the great bulk of the troops on both sides were quite untrained when they took the field, officers as well as men. They were “volunteers,” and the officers were at first elected by their men.

Individually the Southerners were better material for soldiers, except in the west. They were country-bred, good shots and good horsemen; while the northern armies were recruited from townsmen, and had a large foreign element, 10 per cent. Germans, and 10 per cent. Irish. The Southern States were more whole-hearted and more ready to make sacrifices for their cause. They had only eight millions of whites as against nineteen millions, and they soon adopted conscription, which was

¹ Henderson, p. 234.

gradually extended up to men of fifty years of age. This enabled them to make good losses in their regiments by drafts, and give them tried leaders; while in the North, for political reasons, new regiments were raised under untried men.

In equipment the South was at great disadvantage. Its artillery was inferior, and the stock of rifles had to be supplemented by flint-lock muskets and fowling-pieces. The southern soldiers sought to make good their deficiencies by captures from the enemy. The battle-field was their harvest; but their eagerness for spoil hindered them from making the most of their successes. Boots constantly failed them, and this had much to do with the prevalence of straggling, which sometimes reduced their available numbers by one-third. Under such conditions the Confederate soldier was much like the French Republicans who overran Western Europe. General D. H. Hill has described him: "Self-reliant always, obedient when he chose to be, impatient of drill and discipline, he was unsurpassed as a scout or on the skirmish line. Of the shoulder-to-shoulder courage, bred of drill and discipline, he knew nothing and cared less. Hence, on the battle-field, he was more of a free lance than a machine. Whoever saw a Confederate line advancing that was not crooked as a ram's horn? Each ragged rebel yelling on his own hook and aligning on himself."¹

There was much the same independence among the soldiers of the North. The officers were apt to neglect orders which they disapproved, and to indulge freely in criticism of their superiors. Political influence was paramount for some years. But towards the end of the war the teaching of experience and the abundance of supplies made it possible to weed out the inefficient,

¹ Henderson, Jackson, ii. 440.

and to raise the standard of discipline. Lincoln, who had thwarted M'Clellan, gave Grant his full support.

Of the British soldiers at Waterloo Wellington said: "Many of my troops were new, but the new fight well, though they manœuvre ill; better perhaps than many who have fought and bled."¹ His defensive tactics relieved them from manœuvring. In the American Civil war, the loose organisation, the inexperienced staff, and the thickly wooded country were additional reasons for fighting on the defensive. In the first battle of the war (Bull Run, July 21, 1861) the Federal regiments which attacked proved incapable of movement under fire. They showed no want of courage, but they broke into fragments, and their firing was wild. They gave way before Jackson's counterstroke; but "the same want of discipline that had driven them in rout to Washington had dissolved the victorious Confederates into a tumultuous mob."²

Even when the troops on both sides had gained experience, the defence retained its advantage. Cover was generally to be had, in the form of log breastworks or intrenchments, and frontal attacks were always bloody and often fruitless. At the second battle of Manassas (August 29 and 30, 1862) the Confederates repulsed repeated assaults with heavy loss; but when they took the offensive they were soon brought to a check. Even at Chancellorsville (May 5, 1863) the Federals contrived to rally and show front against the unlooked-for and overpowering flank attack of Jackson's corps. Jackson himself said: "My men sometimes fail to drive the enemy from his position, but to hold one, never!"³ Again and again the Federals found that odds of two

¹ S. Rogers' Recollections, p. 209.

² Henderson, Jackson, i. 198.

³ *Id.*, ii. 419.

to one would not enable them to storm Confederate positions. Grant liked to say that he never manœuvred, and to trust to continuous hammering; but at Cold Harbour (June 3, 1864) his "thinking bayonets" refused to respond to his order for a fresh assault when 13,000 of them had already fallen that morning.

In the attack on Lee's intrenchments round Spottsylvania Court-house (May 12, 1864) 20,000 men were directed on a salient angle, and were formed in line of battalion columns in mass. The Confederate commander at that point says: "This column came up in large numbers, but in great disorder, with a narrow front, but extending to the rear as far as I could see."¹ It forced its way over abattis and intrenchment under a heavy fire, and captured 4000 men; but it was brought up by an inner line, and was driven back by a counter-stroke. This attack was made at 4.30 A.M.

Usually the battalions were deployed, and attacks were made in line, covered by skirmishers. The men opened out as they advanced, so that they practically came on in successive waves of skirmishers, and gained ground by successive rushes. Bayonets were so little used that many men threw them away. The actions were decided by fire, but there was little fire-discipline, and ammunition generally ran short. Towards the end of the war the Confederates formed corps of sharpshooters for outpost work. They were first-rate marksmen, and their rifles were often fitted with telescopic sights. They were subdivided into groups of fours, which messed and slept together and were never separated in action.²

The infantry tactics took small account of cavalry. It was at first weak in numbers and not highly trained,

¹ Henderson, p. 336.

² Henderson, Jackson, ii. 585.

and the wooded country was ill-suited to it. Mounted men were valuable for outpost duties, and for raids on the enemy's communications, and their numbers became large; but they were mounted rifles rather than cavalry. Even when they encountered one another they fought with revolvers and carbines, not with sabres, and they usually fought on foot. "It was very easy," says a Confederate horseman, "to charge down a road in column of fours, but very hard to charge across country in extended line and keep any sort of formation. Then we never used sabres, and long guns were not exactly the weapons for cavalry evolutions. We found the method of fighting on foot more effective; we could manœuvre with more certainty, and sustain less, and inflict more, loss."¹

It was the Confederate leaders—Morgan, Forrest, and Stuart—who first showed how much could be done with independent divisions of horse, but the Federals followed the example. At length, in the spring of 1865, Sheridan played the principal part in bringing about Lee's surrender. At the head of a mounted corps of 10,000 men, armed with breech-loading and repeating carbines, he turned the right of the Confederate positions at Petersburg, and obliged Lee to retreat westward to save his communications. Moving parallel to him, Sheridan cut in between the Confederate corps and forced Ewell to surrender. Finally he headed the retreating army at Appomattox Court-house (April 8), and barred its road till the Federal infantry came up.²

The American Civil war showed plainly what changes were bound to follow on the adoption of arms of precision: looser fighting formations, advance by rushes, dismounted action of cavalry, increased use of the spade, and

¹ Denison, p. 444.

² Sheridan, ii. 148-204.

diminished use of sword and bayonet. But its immediate influence on tactics was not nearly so great as it was on naval warfare and siege operations. The American battles were described in Germany as conflicts between armed mobs, from which there was nothing to learn, and their lessons had to be repeated on European battle-fields. Moltke, however, recognised that the fire of stationary troops was so much more effective than that of troops advancing, that it would be well to combine as far as possible a tactical defensive with a strategical offensive.¹

Breech-loaders had been largely used by the cavalry in the American war, but not by the infantry. Lee, indeed, was unwilling to see his men armed with them, because the ammunition would be more quickly expended and less readily supplied. Cartridges containing their own means of ignition could not be improvised; and it was also thought that serious injuries might be caused by their accidental explosion. The war of 1864 between Germany and Denmark showed that the drawbacks had been exaggerated, and were outweighed by the advantage of more rapid fire. The needle-gun justified the hopes built on it; and Prussia found herself once more, as in the middle of the eighteenth century, in the enjoyment of a temporary superiority of fire over all other powers. They prepared to follow her example, but it was a work of time; and to reap the benefit of the difference in weapons, the Prussian Government hastened on the inevitable struggle with Austria for the leadership of Germany.

In 1850 Prussia had had to forego that leadership, and to submit to the humiliation of Olmütz, because her army when mobilised was found unfit for war. The landwehr, according to the scheme initiated by Scharnhorst, was

¹ *Militair Wochenblatt*, July 8, 1865.

meant to consist of trained soldiers, men who had served three years with the colours and two years in the reserve. But in the long spell of peace after Waterloo financial considerations had been paramount, and the peace footing of battalions of the standing army was so low that only half the conscripts of each year could find a place in the ranks. The rest passed direct to the landwehr, where they had hardly any training. In 1837 the service with the colours had been reduced to two years, to allow more men to share in it, but this lowered the quality of the line battalions as much as it improved the landwehr. The latter was especially defective in the matter of cavalry and train. The officers who had only served in the army as "one year volunteers" were not qualified to make up for the shortcomings of their men. Many of them, officers and men, were married, and were unwilling to be called from civil life to fight in execution of a policy of which, perhaps, as citizens they disapproved.

The mobilisation of the Prussian army in 1859 furnished fresh evidence of the defects of its organisation, and William I., who had always taken the deepest interest in its efficiency, resolved to make it as far as possible independent of the landwehr. The number of conscripts to be called up yearly was raised from 40,000 to 63,000 (a change warranted by the growth of the population), and the term of service was made three years with the colours, and four years (instead of two) in the reserve. These changes doubled the strength of the army, including the reserve, and made it unlikely that the landwehr would be called upon for anything beyond garrison duty in time of war.¹ The term of landwehr service was reduced by five years.

¹ The landwehr were actually engaged in 1866 only against the Hanoverians at Langensalza (Blume, p. 217).

In spite of the parliamentary deadlock caused by the refusal of the Lower House to vote the necessary supplies, the scheme was carried through. The enlargement of the army quickened the promotion of officers, which had been very slow, and the unfit were weeded out; so that a new spirit pervaded the whole body. When Bismarck brought matters to an issue with Austria in 1866, the changes had had time to produce nearly their full effect. The minor states of Germany declared against Prussia, but they were balanced by Italy, which was on her side. The Austrian empire had more than twice the area and revenue, and nearly twice the population, of Prussia; yet the Prussian armies were numerically stronger than the Austrians in Bohemia, even with the Saxon contingent thrown in.

In 1859 the Austrian infantry had been better armed than the French. Napoleon III. had told his troops: "Arms of precision are only dangerous at a distance. They will not prevent the bayonet's being, as in former days, the terrible weapon of the French infantry."¹ The French had made it their aim accordingly to come to close quarters, and they had been victorious. The Austrians now determined to adopt similar shock tactics against the needle-gun, overlooking the fact that its advantage lay, not in range and accuracy, but in rapidity of fire at short ranges. The Prussians had been told to reserve their fire till the enemy came within a quarter of a mile, to have a comparatively thin firing-line, since one man was a match for three of the enemy armed with muzzle-loaders, and to keep small columns near at hand in readiness for counterstrokes. They were also told to throw out few skirmishers, but this injunction soon came to be disregarded, as it was found that the breech-loader could be best used in loose order. Companies

¹ [Olberg], p. 195.

dissolved themselves into skirmisher swarms, one after another.

The difference of arms and tactics caused a striking disparity of losses in every engagement. At Nachod (June 27) the advanced guard of the 5th Prussian corps (6½ battalions) held its ground for two hours against three Austrian brigades (21 battalions), giving time for the main body of the corps to debouch from a defile. The Austrians fell back defeated, having lost five times as many men as the Prussians. At Trautenau, on the same day, they were more successful; the 10th Austrian corps (Gablenz) drove the first Prussian corps back into the mountains. Yet here the loss of the victors was nearly four times as great as that of the troops they defeated.

In the course of this action seven Prussian companies on a low ridge, with a front of half a mile, were attacked by seven Austrian battalions. The Austrians were formed in double-company columns (three to each battalion) and in two lines. The attack was made in echelon from the right, and was supported by two batteries, which soon silenced the Prussian guns opposed to them. Covered by a thick belt of skirmishers, the columns of the first line advanced to within 150 paces of the position, meaning to carry it with the bayonet. "The Prussian companies of the first line were almost entirely extended, and the small volleys of the supports soon turned into an annihilating quick fire like that of the skirmishers."¹ One of the two companies in reserve came up into the fire-line and delivered two volleys, and then several companies charged. The Austrians fell back, incurring fresh losses, "for it is against retreating troops that the breech-loader is most deadly."² Two out of the four battalions

¹ Kühne, pp. 71, &c.

² *Ib.*, p. 97.

engaged lost nearly half their men. A second advance, combined with a turning movement, caused the Prussians to withdraw.

The battle of Königgrätz (July 3), where, for the first time on a European battle-field, more than 200,000 men were engaged on each side, was fought by the Austrians under the discouragement of the earlier encounters, and told the same tale. Benedek fought on the defensive in a prepared position, though at first he had odds of five to three in his favour. The battle had lasted four hours when the Crown Prince's army came up, and the corps told off to meet it were already shaken. The Prussian Guards gained possession of Chlum, the key of the Austrian position, without much difficulty; and the two reserve corps sent by Benedek to recover it were repulsed with heavy loss. The battle cost the Prussians 9000 men; it cost the Austrians 45,000, of whom more than 18,000 were killed or wounded.

The Austrians were so heavily handicapped in this war by the difference of weapons that it is hardly necessary to look further for an explanation of the result. It was in infantry fighting that they failed; in cavalry and artillery they more than held their own. But Colonel Stoffel, the clear-sighted French attaché at Berlin, found other causes than the breech-loader for the Prussian success. The education and sense of duty of the people, and consequently of the soldiers drawn from it; the high tone and thorough instruction of the whole body of officers; the unique efficiency of the general staff with Moltke at its head; these advantages would have brought about the defeat of the Austrians even if they had had breech-loaders. The value of the latter lay chiefly in quick loading. Austrian officers said, "Our soldiers are demoralised, not by the rapidity of your fire . . . but

because you are always ready to fire."¹ The total expenditure of infantry ammunition in the war was only two million rounds, or about seven rounds per man, on the Prussian side.

Under the fire of rifled guns it was impossible to operate with large bodies of men without incurring heavy losses. Small columns, of one or two companies, were used on both sides; though the multiplication of units was inconvenient and made control difficult. Consequently the actual conduct of the fight fell to the captains of companies, and one of the ablest of them (Captain May) attributed the Prussian success largely to this fact. They were old enough to know their work thoroughly, and not so old as to have lost their spring. Ten years later the bold active spirit was apt to be quenched by the routine of service, children, and rheumatism. They had a personal hold, too, of their men, with whom attachment to their officers, when there was good ground for it, was a stronger motive than ambition or patriotism; for "the desire heartily to admire some one" is a marked characteristic of the North German soldier.²

¹ Stoffel, p. 146.

² [May], pp. 13-16.

X

THE NINETEENTH CENTURY: II. (1867-1900)

NAPOLEON III. meant to fish in the troubled waters of Germany, and to secure some extension of the French frontier towards the Rhine. He was foiled by Bismarck, with the help of Roon and Moltke, and he only succeeded in delaying the unification of Germany. Discontent at his failure shook his throne, and drove him against his will towards a war with Prussia. Both sides actively prepared for what was seen to be inevitable. The result of the war of 1866 was to increase the population of Prussia to twenty-four millions, to which nearly six millions might be added for the smaller states of the North German confederation, formed under her leadership. The Prussian military system was extended over the whole area of the confederation, but with reduction of the term of landwehr service to five years;¹ and it was settled that the effective strength of the federal army should be 1 per cent. of the population on a peace footing, and 3 per cent. on a war footing. This would yield in course of time nearly a million of trained soldiers under thirty-three years of age.

The cavalry was increased, and the criticisms of Moltke on the overcaution with which it had been handled in 1866² had a marked effect on its subsequent use both in reconnaissance and on the battle-field. The artillery

¹ Blume, p. 254.

² *R.U.S.I. Journal*, 1. 220.

had also failed to support the infantry as it should have done; and arrangements were made to correct this in future, and to bring as many batteries as possible into play from the outset, instead of holding some of them in reserve. The smooth-bore guns were got rid of altogether, and the steel breech-loaders substituted for them were superior to the bronze muzzle-loaders of the French artillery both in range and accuracy. The French *mitrailleuses*, from which much was expected, proved of less value than field guns. On the other hand the needle-gun had only half the effective range of the French *chassepot*, and its rate of fire was less by one-third. The number of rounds carried by the Prussian soldier was raised from 60 to 80; the French, whose rifle was of smaller bore (.51 inch), carried 90 rounds.

Stoffel kept the French Government well informed of all that was being done to improve the Prussian army, in the light of the experience lately gained, and he warned it that Prussia would prove a far more formidable antagonist than Austria. At the same time Trochu was trying to open the eyes of his fellow-countrymen to the defects of the French military system.¹ Napoleon III. was not blind to these defects, especially to the want of reserves, and wished to follow the Prussian example of three years' colour service. But his generals were against changes which would sacrifice quality to quantity, and his ministers insisted that the burden of military service must not be more widely extended nor the cost increased.

The new military law passed at the beginning of 1868 was a compromise. The term of service with the colours was reduced from seven years to five, to be followed by four years in the reserve. Exoneration by payment was

¹ *L'armée française en 1867.*

abandoned, but substitutes were allowed. Conscripts who were not called up for service (either as exempt, or as having drawn lucky numbers) were to be attached for five years to the *garde nationale mobile*. This new auxiliary force was meant to relieve the army of garrison duty, but it was in no way comparable to the landwehr. It would be practically untrained, and no money was voted for it. The law met with strong opposition in the Chamber, and was described by Jules Favre as an attempt to turn France into a barrack instead of a workshop. It was reckoned that army and reserve together would amount to 800,000 men, and the *garde mobile* would add 400,000.¹

Marshal Niel, the author of the new law, died in 1869, and it had not had much effect when war was declared (July 15, 1870). The emperor had been led to expect that, however inferior in total numbers, he would have the advantage at the outset, and could take the initiative; but the machinery of mobilisation worked so badly that at the end of three weeks there were only 220,000 French soldiers assembled on the eastern frontier.² By that time three German armies had begun to cross it, and had beaten the French at Wörth and Spicheren (August 6). They included the forces of the South German States, and numbered nearly half a million. Behind them were such ample reserves that in the course of the next six months more than 600,000 men were able to follow them into France. Bad generalship aggravated a situation which was nearly hopeless from the first, and led to unexampled disasters. More than 300,000 French soldiers had become prisoners of war within three months; the Imperial army had practically disappeared.

But the question that concerns us here is, how did the

¹ Ollivier, x. 328.

² La Chapelle, p. 202.

German infantry compare with the French infantry; and the evidence hardly bears out Prince Hohenlohe's assertion that the German is the most perfect infantry that has yet been seen, or that can be imagined.¹ The officers were admirable in all respects; the men compared favourably with the French as regards order, discipline, and patient endurance. But short-service soldiers are more dependent than others on their officers, and (in Hoenig's words) when the Germans lost their officers they lost their heads. "Our national strength," says Meckel, "does not lie in dispersion, where each man fights for himself. . . . Though our soldier is accustomed in peace to careful drill, strict discipline, and unconditional obedience, in battle he is confused by disorder, and by the withdrawal of his accustomed leaders. . . . It is not so with soldiers of the Latin races. Among them, the individual has more self-consciousness, and a greater tendency to act for himself. He does not regard his officer as a demi-god; he likes to feel himself untrammelled and without a master."² In all armies there are skulkers, but the German conscript seems to have been more than usually prone to seek safety in action by dropping into a ditch or furrow, or sneaking off to the rear.

As the French had the better rifle, they had been told to make the most of it; to dig shelter trenches, await the enemy, and crush him by fire before attacking. This made it necessary for the Germans to depart from the defensive tactics which Moltke had recommended (p. 250), to push in to the shorter ranges which suited their weapon, and to utilise their superior numbers by operating on the enemy's flanks while holding him in front. But Moltke had not changed his opinion. In the in-

¹ Letters on Infantry, p. 1.

² A Summer-night's Dream (*U.S. Magazine*, June 1890).

structions issued in 1869 to commanding officers he said : "There can be no question that the man who stands still and fires has the advantage of the man who fires as he moves forward ; that the ground is a help to the former, an obstacle to the latter ; and that if excited *elan* is met by steady tenacity, fire-effect, which has gained so much in our days, will decide the issue. If we are able to take up a position which the enemy is likely to attack, whether for military or political reasons or from mere national vanity, it seems thoroughly advisable to avail ourselves of the advantages of the defensive before we assume the offensive."

Wörth was an example of the new French tactics. The battle lasted ten hours and the result was for some time doubtful, but fresh troops came up in the course of the day which ultimately gave the Germans a superiority of nearly three to one in infantry and more than three to one in artillery. They were able to turn both flanks of the French position while pressing it in front, and Macmahon was at length driven from the field with a loss of nearly half his army. The defence was passive as a whole, but there were some brilliant local counterstrokes. In the attack on Elsasshausen, for instance, the historian of the Prussian 50th Regiment records that "the fire became heavier, and a regiment of Turcos (Algerians), firing and yelling, came bounding through the smoke. This was too much for even Prussian grenadiers, and away they all went, followed up by the Turcos, towards a small knoll which stands 100 yards or so north of the Niederwald. In vain the officers tried to halt the men. Fortunately, at this moment, a battery of artillery deployed upon the knoll, and a company in good order took post alongside. The flying troops were halted, and a murderous fire was poured into the pursuing

Turcos, who were within 60 yards of the guns. Their charge was checked, and as they fled back the Prussians resumed their advance on Elsasshausen." ¹

Much of the fighting took place in the woods on each flank, where the French, especially the Zouaves, showed themselves, man for man, more than a match for the Germans. In the centre, the French fighting line was placed, not on the crest of the high ground, but on the forward slope, in order to have a better field of fire over the Sauer valley. Consequently it was exposed, and its supports also, to the crushing fire of the German guns. It was their assistance which enabled the German infantry to gain ground, and come within ranges suited to their weapon. The advance was commonly made in three lines. "The first line, composed of about two-thirds of the attacking force, moved forward in line of company columns at deploying interval. When the enemy's fire began to be felt, one-third (seventy rifles) of each company was extended, while the remainder of the company, advancing in column of sections, formed the support and reserve. The second line was almost always stronger than the third line, and advanced either in line of company columns, or in line of half battalion columns, at deploying intervals; but these columns nearly always deployed and extended when they came under heavy fire. In some cases there was no third line. . . . It was not till after a long and constantly fluctuating struggle, swinging backwards and forwards, and swallowing up the supports, the reserves, and in many cases, even the second and third lines, that the German companies were able to establish themselves within 400 to 500 yards of the enemy's front. This was the time when counter-attacks were frequent, the attacking line being over and over

¹ Henderson, *Wörth*, p. 75.

again driven back with heavy losses, both in men and in *moral*; and as a very general rule it was not until the artillery came up in support to within 1200 to 900 yards of the defence that the fire-position could be considered as definitely occupied."¹

Even then it was usually necessary to attack the flanks as well as the front in order to subdue the fire of the defence sufficiently to admit of approach to closer quarters. When this seemed to be secured, groups from the firing line advanced and were joined by others, until at length the whole body rushed forward to the assault. If the time was ripe the defenders did not wait to cross bayonets, but there were many instances of premature assault.

Not only in the wood fighting, but in the more open country, units were broken up and intermingled in the course of the advance; the conduct of the fight fell to the company leaders, who were in some cases sergeants, in others colonels or generals. It was a mass of disordered battalions belonging to two different army corps that gave way before the charge of the Turcos. This confusion and absence of control were unavoidable under the new conditions imposed by the breech-loader, but they were very distasteful to many of the older officers, including King William. He had refused to sanction a revision of the drill-book (which dated from 1847) by the light of the experience gained in 1866, and clung to manœuvres in battalion column as a necessary corrective of the tendency to loose order.² In the battle of Gravelotte (August 18) the Prussian Guards paid the penalty of this conservatism.

Canrobert's corps, which was on the right of the French army, held the village of St. Privat, and extended a mile to the north of it. It was a solidly built village, with walls and hedges on its outskirts, affording successive

¹ Henderson, pp. 51-53.

² Blume, p. 225.

lines of fire. Towards evening three brigades of the Prussian Guards were ordered to attack St. Privat, without waiting for the turning movement which the Saxons were carrying out to the north of them, or for artillery preparation. They had to cross more than a mile of gently rising ground which afforded hardly any cover. Reckoning themselves to be beyond the effective range of infantry fire, they began their advance mainly in columns of half battalions, with some company columns in front which threw out skirmishers. The long range fire of the French skirmish line, 600 yards west of the village, inflicted serious losses on them from the first, and these increased as they drew nearer. The columns soon lost their cohesion, but struggled bravely onward in swarms, until they reached the French skirmish line, and were able to use their own rifles with effect against the troops in the village. Beyond this they could make no progress until the Saxons were ready to join them in a combined assault from north and west, for which the fire of twenty-four batteries had meanwhile paved the way.

The final assault did not cost many men, for the French were falling back; but the Guards lost 30 per cent. of their strength altogether, and one battalion lost 55 per cent.¹ More than half the officers were killed or wounded, and in the case of the mounted officers the proportion was much higher. Some idea of the storm of fire to which they were exposed is given by the fact that Canrobert's infantry expended in two days' fighting (August 16 and 18) nearly two million cartridges, which was the total expenditure of the Prussians in the war of 1866.

While the Guards were attacking St. Privat two other corps attacked the left of the French army, which was on high ground separated from Gravelotte by the wooded

¹ Balck, p. 28.

ravine of the Mance. This ravine, of which the Germans had already gained possession, gave them cover to within half a mile of the French fighting line; and there had been no reply to the preliminary cannonade by the German batteries near Gravelotte. The conditions seemed favourable; but when the infantry issued from the woods and came within short range, "they suddenly found that the French artillery and mitrailleuses had by no means been silenced—about two hundred pieces opening on them with fearful effect, while at the same time the whole crest blazed with a deadly fire from the *chassepot* rifles. Resistance like this was so unexpected by the Germans that it dismayed them; and first wavering a moment, then becoming panic-stricken, they broke and fled, infantry, cavalry, and artillery coming down the slope without any pretence of formation, the French hotly following and pouring in a heavy and constant fire as the fugitives fled back across the ravine towards Gravelotte."¹

"It would have been better," says Moltke drily, "if the chief of the general staff, who was on the spot, had not allowed this advance so late in the day."² All that he had written about the difficulty of attacking troops well armed and well posted must have come vividly home to him. But the time had come when he was at length able to combine offensive strategy with defensive tactics, and when the Germans were to get the benefit of the breech-loader's efficacy to check an advancing enemy. The world was surprised to see a French army of 150,000 men shut up in Metz, and starved into surrender, by a German army which was not much larger and was spread over a circuit of nearly thirty miles. But this investment line, long and thinly manned as it was, had no flanks to be turned; its strength was quickly increased by field intrenchments;

¹ Sheridan, ii. 375.

² Krieg von 1870-71, p. 58.

the French troops could not be massed to attack any one section of it without warning, and the forces at the threatened point could hold their own long enough to allow reinforcements to come up. It was not an iron ring but an elastic band, which yielded to some extent to the assailant's efforts, but clung round his flanks. It was not severely tested, for Bazaine's attempts to break out were little more than formal.

The battle of Sedan (September 1) was practically a case of the same kind. The Germans enveloped the French army so completely that they had no need to drive their attack home. Their task was in the main to resist the efforts of the French to escape from a hopeless position, and to keep them exposed to a crushing artillery fire. The gallant charges of Galliffet's cavalry had no result except their own destruction. They confirmed what Moltke had written in 1869: "Infantry in good order need fear no cavalry attack, so long as it keeps cool. That is far more important than its formation, which only matters so far as it heightens its sense of security."¹ Already in 1866 the Prussian infantry had been told not to form square to resist cavalry.²

Bredow's brigade showed at Vionville (August 16) how much might be done by the well-timed charge of six squadrons. It not only served its purpose—to gain breathing space for Alvensleben's infantry—but it put ten French batteries out of action for the rest of the day. The batteries, however, were exposed on a ridge with only three companies of chasseurs as a guard for them. The ground allowed Bredow to approach under cover, and to charge through the line of guns when some batteries were in the act of relieving others. There was a regiment of infantry (three battalions) on the reverse slope behind the

¹ Moltke, p. 200.

² Hohenlohe, p. 256.

batteries ; but it was already shaken, and the flying guns and limbers broke through it, opening the way for the German lancers and cuirassiers.¹

In the People's war which followed on the collapse of the Empire and the Imperial army, Gambetta did all that one man could to repeat the achievements of 1794, but he was not able to organise victory like Carnot. He had to do with a single power and a set purpose, instead of a half-hearted coalition. It was not a fight between a nation and an army, but a fight between two armed nations, one trained, the other untrained. The Government of National Defence had half a million of men at its disposal in September,² but not much more than half of them could be called soldiers. Towards the end of the year the total rose to a million, but as Moltke wrote to his brother November 23), "an armed crowd is very far from being an army, and it is brutal to lead such men into battle." In his anxiety to save Paris, Gambetta could not wait to organise or discipline his improvised corps ; he hurried them forward imperfectly equipped on disconnected enterprises.

At Bapaume (January 3, 1871) 40,000 French found themselves unable to dislodge 15,000 Germans, and at St. Quentin (January 19) they were themselves driven from their positions by 33,000 Germans. At Beaune la Rolande (November 28) 11,000 Germans held their ground for several hours against 60,000 French, and at Loigny-Pouppry (December 1, 2) less than 40,000 Germans repulsed and completely defeated 100,000 French. When Bourbaki marched to the relief of Belfort with more than 100,000 men, Werder, who had only 42,000 (of which half were landwehr), telegraphed for instructions whether he should raise the siege. It trammelled his movements, obliged

¹ *Revue d'Histoire*, xiii. 170-190.

² *Ib.*, xxvi. 341-346.

him to extend his force too much, and exposed him to attack in rear, so that defeat would mean disaster. The answer came promptly from headquarters that he was not to raise the siege, and the three days' fighting on the Lisaine (January 15-17) justified the decision.

The broad result of the lessons of 1870 is stated as follows by a German infantry officer: "No volleys in battle; no, or at least very few, attacks by troops in close order; great deployments of skirmishers on both sides; long-continued gradually advancing musketry fights, often rolling backwards and forwards; at last, the flank of one party turned, or else one side exhausted; the other side pressing on in consequence, or a rush of dense clouds of skirmishers who endeavour at any price to dislodge their opponents, not forgetful that in case of failure and retreat they are dead men. On both sides great dispersion, intermingling of troops, particularly in broken ground; hence the leader's control diminished."¹

William I. and his advisers were unwilling to accept this loss of control. They tried to combine the older method with the new, and continued to look to the coming up of the second line in solid formation to decide the action. The revised drill-book, issued in 1873, showed no substantial change in this respect. The French Regulations for manœuvres, issued in 1875, took fuller account of recent experience. They recognised that bodies of troops must be broken up into small units and extended when they came within the zone of effective fire; that fire must be the chief means of action; and that the skirmish fight, instead of being merely preparatory, must be carried through to the end. The fighting line would advance by rushes up to the critical stage, being fed from the rear as it moved forward; after sufficient preparation, it would

¹ Boguslawski, p. 88.

be joined by the reserves, and would try to storm the position. Both in France and Germany the balance of opinion was strongly in favour of offensive tactics.

The Russo-Turkish war of 1877 gave fresh means of judging of the effect of rifled breech-loaders. The Turks were inferior in numbers and organisation, but they had a better rifle than that with which the greater part of the Russian infantry was armed, and they had also a better field gun. As they fought mostly on the defensive, they derived the full advantage from their weapons. Of many examples the best are to be found in the fighting round Plevna.

A force of 9000 Russians was sent to occupy Plevna, an open town which was the meeting point of many roads, and was within 50 miles of the Russian bridge over the Danube. On arriving there (July 19) it found 15,000 Turks in possession, for Osman Pasha had arrived from Widdin a few hours before. The Russians attacked next day, but were repulsed with a loss of one-third of their men. Ten days afterwards (July 30) the attack was renewed by 32,000 men. By that time Osman had 20,000, and he had made redoubts and intrenchments on the hills surrounding the town. After some very severe fighting the Russians were again repulsed, with a loss of 7000 men.

The Russian pride and prestige were deeply touched by these failures, and it was felt that no effort must be spared to wipe them out. The Roumanians were called upon to help, and they contributed one-third of the 100,000 men who were brought together for the purpose in the early part of September. But the positions were now much stronger, for the Turks were indefatigable in adding to their works. "An infectious desire, which never relaxed till Plevna fell, seized the soldiers to dig themselves in

like moles."¹ The trenches were so made as to afford successive tiers of fire, and 500 cartridges were provided for each man. The orders were: "As soon as you know or suppose the enemy to be within range of your rifles, cover the space presumably occupied by him, or presumably to be traversed by him, with quick fire, independent of distance, duration, difficulty of aim, probability of hitting, and consumption of cartridges."² The positions formed a horse-shoe, 16 miles in circuit, and open towards the west. Convoys and reinforcements had come in, bringing up the Turkish numbers to 30,000. They had only 70 guns, while the Russians had 440, including 24 siege pieces.

The assault was to be made on three sides, like the previous one. The right wing, 24,000 men, was directed against the Grivitza redoubt, which formed the eastern end of the northern defences; the centre, 25,000 men, was to attack the works covering Plevna on the south-east; and the left, 15,000 men, was to advance from the south. Four days were spent in cannonading the Turkish positions, but with small result, though there was great expenditure of ammunition. During these days the left wing gained ground, and established itself on the Green Hills, south-west of Plevna. The three attacks were meant to be simultaneous, at 3 P.M. on September 11; but circumstances made them successive. Skobelev, who commanded on the left, became engaged in the morning, fought all day, and by evening had taken two works on the outskirts of Plevna. The sound of the firing caused two regiments in the centre to attack prematurely. They were repulsed with heavy loss, and renewed attempts by other regiments had no better success. On the right, the Grivitza redoubt was stormed, but did not prove (as it was supposed to be) the key of Plevna. This was the only fruit of the day's

¹ Herbert, p. 216.

² *Ib.*, p. 281.

work, which cost the Russians and Roumanians 18,000 men; for Skobelev, after holding his ground heroically for nearly twenty-four hours, was obliged to fall back to his former position for want of support.

The unprecedented rain of bullets to which the assailants were exposed was one cause of their failure. It began when they were still a mile from the works, and caused them serious loss, even when they were hidden from view by the ground. But their own tactics contributed to their defeat. The attacks were disconnected, and where (as in Skobelev's case) they met with some success, reinforcements were not furnished to secure what had been won. The successful troops found that they had entered the enemy's positions in the form of a wedge, and were exposed to concentric fire from three sides. There were few sappers, and the infantry had thrown away their tools, so that they had to use bayonets and mess tins for intrenching the positions they took.

The normal attack formation of the Russians was two lines of company columns preceded by skirmishers; but the columns of the second line soon closed up with the first, and presented large targets to the enemy. Their close order, while adding to their casualties, did not serve to develop a crushing fire in reply. Kuropatkin (who was Skobelev's chief staff officer) says: "Even when we had arrived within 600 paces of the enemy we made but little use of our rifles, and attempted to advance without firing a shot, without taking advantage of the natural cover which the ground afforded."¹

Skobelev's own opinion, as expressed after the battle, was: "The only formation in which troops can successfully assault intrenched positions is in successive lines of skirmishers. The division general must be perfectly

¹ R.E. Occasional Papers, v. 140.

thoughtless of his own comfort and safety, and post himself between the skirmishers and the reserve, where he can feel the pulse of the battle and have his troops in his own hand, and judge himself of the moment when the successive battalions in reserve should be sent forward. . . . The reserves must be sent in at the moment when the reasonably brave men have been long enough engaged, and have met with sufficient resistance to begin to feel nervous, but before they have actually begun to retreat; and it is in deciding upon the opportune moment for sending forward his reserves that the art of a division commander consists."¹

It was in this way that he succeeded where others failed. His men had to advance over 1100 yards of falling ground covered with vines, to cross a brook, and mount a steep slope of a quarter of a mile, in order to reach the Kazanlik redoubts. He sent forward eight battalions which got as far as the brook; a reinforcement of fifteen fresh companies carried them half-way up the slope; twenty companies more brought them nearly to the upper redoubt, but a counter-attack checked them. Then Skobeleff, having used up his reserves, rode forward himself, and by his personal stimulus captured the work.² In winning and holding this part of the Turkish defences the loss of his infantry was 40 per cent.

After the third failure it was decided, by Todleben's advice, to treat Plevna as a fortress, invest it on all sides, and starve the defenders out. For several weeks the road to the west was still open, and the Turks might have retreated on Sofia; but Osman had orders to stay at Plevna at any cost. Reinforcements were sent to him, but they only shortened his resistance. By December 10 his provisions were exhausted, and his attempt to cut his

¹ R.E. Occasional Papers, v. 134.

² Kuropatkin, i. 382.

way out inevitably failed. He was forced to surrender, with 40,000 men. The Turkish soldiers, so stubborn in defence, are said to have lacked dash in attack, but their cheerful endurance of hardships was exemplary.

In spite of the final catastrophe, for which Osman was not responsible, Plevna was a striking example of the combination of the strategical offensive with the tactical defensive. The impression made on Skobelev led him to say that "if the French armies in the second period of the war of 1870-71 had kept strictly to the plan of occupying strategic positions (directed by preference against the lines of communication), combining with this a strictly defensive system of tactics, assisted by field fortifications, the campaign would have had a result more favourable for the French."¹

He and others did their best to induce the Russians after the war to develop fire tactics and rely less on the bayonet. But they met with strong opposition from Dragomirov, a forcible and indefatigable writer, who had taught tactics, had witnessed the campaigns of 1859 and 1866, and had commanded a division with distinction in 1877. He insisted that national character must be taken into account: "The conclusions of the Prussians must not be applied to our men, who are well known to prefer fighting shoulder to shoulder." He urged that improvements in small arms are always followed by a recrudescence of defensive tactics, and by schemes for avoiding loss in attack; but the principles of tactics are substantially what they were, and Russian leaders should still look to Suvorov as their guide. Good troops should not indulge in long-distance lead-pumping; they should husband their cartridges and fire volleys. An attack once launched should be resolutely carried through:

¹ Report of September 15, 1877.

what the bullet cannot do the bayonet will. This is the only means of finding out whether a position is really held in force. The greatest pains should be taken to develop the sense of duty as well as the intelligence of the soldier, to make him skilful in the use of rifle and bayonet, and eager to close with the enemy. Such was the substance of his teaching, which commended itself to the national sentiment.¹

In France there was a reaction in the same direction, partly owing to the influence of Dragomirov. The Instructions of 1875 were charged with looking too exclusively to fire effect, and lacking the spirit of the offensive. New instructions were issued in 1884, and were modified several times in the next ten years. In these it was laid down that, if an attack was not a mere demonstration, the main thing was to get forward, and fire was only a means to it. The function of supports and reserves was to sustain the forward movement rather than to increase the intensity of the fire. The normal interval between the files of the chain of skirmishers was reduced from six paces to three; the supports were suppressed, and the reserves brought nearer to the fighting line. The final charge would be made by men practically shoulder to shoulder and in two ranks, one section of each half company being behind the other. Volley firing by sections was recommended for the fighting line, though the French had always preferred independent firing, and Napoleon had declared it was the only kind of fire practicable in war.²

In Germany the prevailing current was in the opposite direction, though equal stress was laid on a vigorous offensive. The Infantry Exercise issued in 1888, on the accession of William II., definitely recognised for

¹ *R.U.S.I. Journal*, xxxii. 985.

² Thiry, pp. 34-101.

the first time that "the fight is commenced, and in most cases carried through to the end, in extended order."¹ To maintain the density of the fighting line and its full fire action, the front of a company should not much exceed 100 mètres (or about two men per yard). The advance by rushes should only be resorted to when the enemy's fire made it imperative, and then one portion of the fighting line should keep up its fire to cover the advance of the other portion. When short range had been reached, and the final assault had been sufficiently prepared, closed bodies from the rear would join the fighting line and carry it on with them. The laying down of definite rules for the execution of an attack was prohibited, and stress was laid on developing the initiative and alertness of the subordinate officers and of the men. The latter must be trained to fire-discipline, for volleys were regarded in Germany as things of the past.

As regards the closed bodies above mentioned, it was soon recognised that even company columns were inadmissible under fire, and in a few years nothing was to be seen at German manœuvres but lines upon lines of deployed skirmishers.² Another method of advance which found favour at long ranges was by sections or squads in fours or in file.³ These "snakes" or "worms," with wide intervals between them, would suffer less than line or column from artillery fire, and could make their way better through woods and obstacles. How to get men forward in sufficient strength to prevail without incurring prohibitory losses, and how to direct and control them when extended, were knotty questions, and their difficulty was aggravated by the adoption of smokeless powder, magazine rifles, and quick-firing guns.

¹ Part ii., para. 19.

² R.E. Occasional Papers, xix. 59.

³ Balck, p. 322.

It was the needs of naval warfare, the defence of ships against torpedo boats, that led to the development of these novelties; but they were soon turned to account, not only for coast batteries and fortresses, but also for service in the field. Magazine rifles of small bore (three-tenths of an inch) were issued to the German infantry in 1890-91, and other countries followed suit. They not only gave the means of very rapid fire at need, but they had greater range, accuracy, and penetration, a flatter trajectory, and lighter ammunition. They could send their bullets 3000 yards, which was not much short of the effective range of shrapnel, so that the rifle threatened to overtake the field gun. It was the wish to keep outside the rifle fire of the Turks, armed with a weapon of less range, that had made the Russian artillery so ineffective at Plevna.

But the smokeless powder which gave the magazine rifle its value lent itself to corresponding progress in gun-making. The strain on the gun was less, so that for a given weight higher velocity and longer range could be obtained. Absence of smoke allowed the rate of fire to be increased from three rounds to thirty rounds a minute. The new type guns were of various calibres, and it was found that pieces much heavier and much lighter than the ordinary 15-pounder field gun could be taken into the field. Field howitzers firing 50-lb. shells charged with high explosives were introduced, and shrapnel was made more effective.

The French had adopted universal service in 1872, and in 1889 the term of service with the colours was reduced from five years to three. By 1900 the number of their battalions had been doubled, the number of their field batteries trebled. The war strength of the French army rose to nearly two millions, or including the territorial army to four millions, of trained men. The other great

continental powers increased their forces correspondingly; and it became evident that in future battles would be on a much larger scale, and prolonged perhaps for several days. Ammunition trains had to be considerably increased to meet the needs of the new guns and rifles. Smokeless powder helped the defenders to conceal their numbers and position, while long-range weapons hindered staff officers from reconnoitring or from carrying orders to troops engaged. It was not easy, therefore, for a general to plan the battle beforehand, or to regulate it when once begun. The risks of frontal attack by day turned attention to night operations, and to wide enveloping movements which would take time. Mobility became more important than ever, though there was likely to be little scope for the use of lance or sabre. The dismounted action of cavalry, the employment of mounted infantry and of cyclists became pressing questions.

The war in South Africa, which began in 1899, threw light on many of the points on which speculation had been active. It also threw light on the question how far the professional soldier retains his old pre-eminence over "men with muskets." In 1848 Sir Harry Smith, with six companies of infantry and two squadrons of Cape rifles, had routed 1000 Boers at Boomplaats. In 1881 the British had met with mortifying reverses, and in explanation of them Sir George Colley wrote: "The want of good mounted troops told very heavily against us, and our soldiers are not as trained skirmishers and shots as the majority of these Boers, who from their childhood have lived in the country, and to a great extent by their guns, and are used to stalking and shooting deer."¹

It was known that the Boers had increased in number,

¹ Butler, p. 318.

and had provided themselves amply with guns, rifles, and ammunition of the latest type; but it was reckoned that the Transvaal and Orange Free State could not muster more than about 50,000 burghers, ranging from sixteen to sixty years of age, and unused to war. When the British Government decided to send out an army corps, bringing up the forces in South Africa to 70,000 men, it was thought to be doing more than was needed: "Against such an array of bayonets, sabres, and cannon, what can General Joubert's half-trained mob of irregulars expect to accomplish?"¹ The force was in fact the largest that Great Britain had ever sent off.

The war lasted two years and a half, and it is now reckoned that the total of those who fought on the Boer side (including foreigners and Cape Colony rebels) was not much short of 90,000; but it is doubtful whether more than half of them were in arms at any one time. On the British side, the regular troops employed amounted to a quarter of a million, and the auxiliaries to nearly 200,000, including colonial corps. The offers of the colonies were at first accepted as a mere form: their contingents were to be mainly infantry, and the total was put at less than 2500 men. But soon there was a cry for mounted men, and the colonial corps rose to 29,000 men, besides 50,000 men raised in South Africa.

The war passed through three phases, which to some extent overlapped: the Boer invasion of British territory, the British invasion of the Free State and the Transvaal, the guerilla war directed against the British network of occupation. It had been thought that 15,000 men would be enough to protect Natal, but the action at Lombard's Kop (October 30) dispelled this belief. Sir George White found that to defend himself at Ladysmith was as much

¹ *Standard*, October 9, 1899.

as he could do: and he was shut in there for four months, in spite of the efforts of a relieving army which gradually rose to some 35,000 men. Yet the Boer forces in Natal at no time exceeded 27,000, and were latterly much less. The British failures (Colenso, Spion Kop, Vaal Krantz) were attempts to drive a wedge into the enemy's positions, so that the assailants were enveloped instead of enveloping. It was only when the situation was reversed that success was attained. To account for the British tactics, after making all allowances for the character of the ground and the mobility of the Boers, we must fall back on the fact noted by Colley that the British infantry soldier was no match for the Boer as a skirmisher.

The men themselves knew it. "The astuteness and adaptability of their invisible foe, how cleverly he fought in all shapes, how rarely he committed himself, how rarely he was at a loss, were subjects of frequent discussion amongst them, and one heard more than one surmise as to what would happen 'if we were allowed to scatter over the country like the Boers do.' Poor fellows, the proposition was usually succeeded by a thoughtful silence, and a helpless look which augured ill for comfort in the verdict. Once a man actually and boldly averred what all had in their minds: 'They've got more brains nor we!' and the announcement was not negatived by his comrades."¹

Their officers came to recognise that precision of drill may be even detrimental, and that in the form of intelligence required on the battle-field the town-bred European soldier is as far behind the natural man of the hills and plains as he is in hardiness and keenness of sight.² Usually the balance is more than redressed by the difference of equipment, but that was not the case in South Africa.

¹ "Linesman," p. 36.

² May, p. 68.

Consequently "in situation after situation where our soldiers were helpless the Boers were perfectly at home. It was this which made one Boer equal to three freshly landed British soldiers in everything except those hammer and tongs fights which, in such a war, are quite exceptional."¹

The last remark touches the weak point of the Boers. They were as a rule careful of their skins; they had no bayonets, and disliked coming to close quarters. There was so little discipline and subordination among them that each man practically did as he pleased, and it was useless for the leader to give orders which his men disapproved. This accounted for their want of enterprise in the first months of the war, for the failure of the assault on Ladysmith (January 6, 1900), and for the purely passive character of their defence. On the other hand the British infantry never showed more courage and discipline than in returning again and again to the assault of positions from which they were shot down by an unseen enemy. Smokeless powder was a godsend to the Boers. They could keep themselves and their guns hidden; and their schanzes were so cunningly made that "a keen-eyed man could approach within a few yards of them without detecting that a stone had been moved."²

In the second phase of the war the open country of the Free State allowed cavalry and artillery to be of more service to the infantry. Of the 45,000 men with whom Lord Roberts advanced from Bloemfontein on Pretoria, three-tenths were cavalry or mounted infantry. This enabled him to march on a broad front, and to turn the enemy's flank. As he reported in the case of the Zand river (May 10), "they occupied a position twenty miles in length; ours was necessarily longer." By these tactics he

¹ Hamilton, i. 5.

² Pilcher, p. 18.

forced the Boers back, and reached Pretoria with small loss, having marched 250 miles and crossed three rivers in a month.

The mounted troops to whom his success was largely due did most of their fighting on foot, seizing points of vantage and holding them, and so gaining time for the infantry. Great hopes had been built on the shock action of the cavalry, but little came of it. At Elandslaagte (October 21, 1899) two squadrons charged twice through a stream of retreating Boers with good effect; but under similar circumstances elsewhere (*e.g.* at Karree siding, March 29, 1900) the Boers showed so bold a front that the cavalry, though in a position to charge, forbore to do so. Perhaps the most successful stroke of horse was made by Bushmen and New Zealanders forming the advanced guard of Babington's column (March 23, 1901); 50 Boers were killed and wounded, and 140 were made prisoners with two guns, &c. These colonial horsemen had not the discipline of regular troops, but they had the "discipline of enthusiasm" under a leader whom they trusted, and they had many of the Boer characteristics.¹

In the last phase of the war the Boers had no longer any fixed points to guard, and could turn their mobility and knowledge of the country to full account. They could act in large bands or small. Their numbers had shrunk to some 20,000, but those who still kept the field were more apt for the offensive strokes which were now their only resource. In dealing with mobile columns of mounted men they developed a bold method of attack. Taking advantage of mist or rain, they came down on the columns at a gallop in very open order, with loud cries, and shooting from the saddle. Sometimes they succeeded in spreading a scare, and bursting into the

¹ Abbott, pp. 9, 84.

midst of the escort overpowered its units in detail. If they were met by a steady fire they dismounted, took cover, and tried to push their attack on foot. In so doing, they would make extensive détours to avoid ground where they would be exposed. If it could not be avoided they crossed it by creeping, or by making rushes of ten or twenty paces, singly or by twos and threes. They formed groups of which one fired while the other advanced, and so they gained ground alternately. "The carrying out of the advance entirely rested with the individual Boers; commandants and field cornets merely started the commandoes."¹

It was a disconcerting novelty to the British to find heavy long-range guns (even 6-inch) brought into the field against them, and the Boers handled them with surprising ease. The effect was mainly moral, but the British made haste to provide themselves with pieces of corresponding range (up to 10,000 yards). The success of the innovation, however, depended on the skill of the Boers as skirmishers, which enabled them to check pursuit, and give time for the removal of the guns when it became necessary. The Greeks had tried a similar experiment in Thessaly in 1897, but lost all their guns.² The Boers also set the example, which the British followed, of using one-pounder quick-firers (pompoms) in the field. Though their shell-power was insignificant, their mobility and rapid fire made them formidable. The 50-lb. lyddite shells of the British howitzers fell short of expectations, as there was seldom a good target for them, and the Boers had "no nerves." The expenditure of ammunition in this war was very large, especially of small-arm ammunition. On the British side it amounted to sixty-six million rounds,

¹ *R.U.S.I. Journal*, xlv. 360.

² Callwell, p. 121.

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had twice the expenditure of the Germans in 1870-71.

The war in South Africa was of so exceptional a kind that large allowance had to be made for the local conditions. But British officers brought home with them some general conclusions, based on the weapons used: that the extension of infantry in attack must be carried much further than had been thought necessary hitherto; that discipline must become less mechanical and more intelligent, "the discipline of a well-trained pack of hounds;"¹ that to master the fire of the defence, even if a position was thinly held, was exceedingly difficult, and that envelopment was almost indispensable for success; that guns should not be massed, and should be hidden; that mounted troops were more needed than ever, but their mobility and their fire-action were the things to be studied. The adoption of khaki for the normal dress of the soldier, the substitution of "Infantry Training" for "Infantry Drill," were significant of the change that had come over the British army. A shortened rifle was adopted for cavalry and infantry alike, superseding the cavalry carbine, and the artillery was furnished with a quick-firing field gun of greater range.

Abroad opinion was divided. There was much opposition in Germany to views that would aggravate the difficulty of handling large masses of men on the battle-field, and would not square with the great cavalry charges which were a favourite feature at German manœuvres. It was argued that the war had really taught nothing new, nothing to affect the principles of the existing regulations. It had been "a fight between rigid system and free, sound, common sense." As a fact, there was nothing peculiarly rigid in the British methods of using

¹ Henderson, *Science of War*, p. 410.

infantry and artillery; they had been much the same as those of continental armies, and had been quickly adapted to the new conditions. Nevertheless the German staff preferred to take the view that "it was not the small-bore rifle and smokeless powder nor the loss of men (which was comparatively small) that caused such shrinking from frontal attacks; it was the misgivings of the leaders about their own capacity, and consequently the shaken confidence of the troops in their leaders."¹

In France there was less self-complacency. General de Négrier wrote forcibly on the lessons of the war. New regulations for infantry were issued in 1902 and 1904, which aimed at simplification and the development of initiative. Captains of companies were given a freer hand, and leaders of sections were entrusted with fire control. A system of advance by groups was substituted for the chain of skirmishers.

The Russo-Japanese war threw fresh light on these vexed questions. Here the combatants were not so unequal as Briton and Boer, yet the disparity was great. Russia had three times the population of Japan, five times as many soldiers, and seven times the revenue. But the seat of war, within easy reach of Japan, was 4000 miles from Russia; and though the single line of rails which formed the only connection did far more than was expected of it, the strength of Russia could be exerted only slowly and partially. When the war began, in February 1904, there were only 150,000 Russian soldiers in Manchuria, and they had to guard and garrison two naval bases 900 miles apart. Command of the sea was vital to the Japanese. They were much below the Russians in naval strength, all told; and their first business was to take or destroy the squadron in Port Arthur

¹ *Kriegsgeschichtlichen Einzelschriften*, Nos. 34-35, p. 171.

before it should be joined by other ships from Europe. Consequently the war hinged, like that in the Crimea fifty years before, on the siege of a coast fortress.

The first Japanese army, after occupying Korea, forced the passage of the Yalu (May 1) and threatened Liao-yang, the Russian headquarters. Shortly afterwards a second army landed in the Liao-tung peninsula, and drove the garrison of Port Arthur back upon the fortress. Two divisions were left to besiege it, and grew into a third army; four marched northward and defeated a Russian force which was advancing to its relief (Telissu, June 15). The siege of Port Arthur lasted seven months, and of 150,000 Japanese soldiers who took part in it, nearly half were killed or wounded. Meanwhile, the first and second armies, with a fourth army as a link between them, held the main Russian army in check. They even forced it to abandon Liao-yang (September 4), and fall back on Mukden. In October, reinforcements having raised the Russian army to more than 200,000 men, it took the offensive, and tried to roll up the Japanese right. While the troops held their ground there as best they could, the Japanese centre and left made a vigorous counter-attack, and the Russians retired to their old positions on the Sha-ho, having lost more than 40,000 men (October 9 to 18).

The surrender of Port Arthur (January 1, 1905) set the third Japanese army free to join the others, and a fifth army was sent from Japan, raising the force at Marshal Oyama's disposal to more than 300,000. The Russian forces were by this time quite as large, and before the additional troops could come up the Russians took the offensive again, striking at the Japanese left. The attack met with some success, but was not supported by demonstrations elsewhere, and ultimately failed (Sandepu,

January 26 to 29). In another month the Japanese were ready for a general advance, which at first threatened the Russian left, but really aimed at enveloping the right. A battle which lasted a fortnight, and extended over a front of more than 100 miles, ended in the abandonment of Mukden by the Russians (March 10) and their retreat northward with a loss of nearly one-third of their number. The annihilation of the Baltic fleet off Tsushima (May 27, 28) finally settled the question of sea-command, and was soon followed by negotiations for peace.

The prolonged resistance of Port Arthur and the admirable working of the Siberian railway had made it a fairly even duel between Russians and Japanese in the valley of the Liao, and in each phase of it the Russians had been worsted. Their commander-in-chief, General Kuropatkin, the sharp critic of their shortcomings in 1877, had been minister of war. He was, therefore, primarily responsible for anything wrong in the organisation or handling of his army; but he had been often overruled. He had also much fault to find with his tools. In his farewell address to the army, and in his report to the emperor, he complained that he had been short of men and of war material, his lieutenants had disobeyed orders or shown incapacity, and there was a lack of instruction, ability, and initiative among the subordinate officers. "Unfortunately there do not exist in Russia a great number of men of energetic and independent character."¹ Among officers and men alike there had been little enthusiasm, little desire to distinguish themselves, and a want of the resolution to win. This was partly due to "the obscurity which surrounded the objects and causes of the war."

¹ *R.U.S.I. Journal*, 1. 956.

On the other hand, in the Japanese army all ranks were convinced that the war was a matter of life or death for their country, and were animated by a spirit of patriotism and self-devotion to which it would be hard to find a parallel. Napoleon's saying was borne out, that moral factors count for three-fourths in war. Drawn from a people of quick intelligence and rare dexterity, untouched by "the enervating influences of civilisation," but trained to the strictest discipline, the Japanese troops combined the alacrity of Frenchmen with the fortitude of Russians. They were not only first-class fighting men; they had assimilated all that their German instructors had to teach them as to military organisation. The staff and departments were models of efficiency; the telephone was largely used for transmission of orders and direction of fire; and a prearranged system of spies gave them a great advantage over their enemy in the matter of intelligence.

The course of the war confirmed in the main the teaching of South Africa. The Russians fought mostly on the defensive in prepared positions, and it was found that frontal attacks, even by troops ready to give their lives without counting the cost, seldom succeeded. The second Japanese army lost a fifth of its strength to no purpose before Liao-yang, and found it necessary to modify its German tactics. Ground must be gained as far as possible by night, trenches must be made for cover, and two or three days would be needed to carry through an attack.¹ Advance in daylight under fire could only be made by creeping in open order, or by rushes of groups, who dug themselves in as soon as they halted, and were taught to dig lying down. The first army, operating in more broken ground, made less use of the spade, and

¹ *R.U.S.I. Journal*, li. 1005.

advanced by rushes of companies, 100 yards or so at a time.

The consumption of ammunition was so large, and the difficulty of replenishing it so great, that the men sometimes carried nearly 400 rounds into action. They had holdalls, 6 feet long by 8 inches wide, open at each end and sewn across the middle, so that they formed two pockets. These could be used for cartridges and emergency rations, and the holdalls were worn over the shoulder like a bandoleer. The Japanese rifle was of small bore (.25-inch), and its ammunition was light; but the wounds inflicted were often trifling.

The Russians found themselves obliged to adopt the same methods as the Japanese when they had to cross open country under artillery fire. Captain Soloviev says that, formed in Indian file at ten paces interval, "the men run stooping, as fast as they can, and utilising as much as possible the least inequality of the ground. It is well that the leading men should be trained to choose the sinuous line most advantageous to follow." Volleys had to be given up, and the whistle was found to be the only means of exercising fire control. In the battle of Liao-yang the 34th Siberian Rifles used 1,200,000 cartridges, or 630 per man. Fire at ranges over 2000 yards was found effective against hidden batteries. The Russians always had their bayonets fixed, and their faith in the bayonet was not shaken by the war. Their strength and reach gave them the advantage with it; the Japanese were shy of closing with them, and often preferred to use hand grenades or even stones. But a bayonet charge must not be launched across a wide space, or few men will survive to make it. There is no "decisive range," as the regulations had assumed: "Sometimes the two adversaries remain lying face to face at only fifteen or

twenty paces from each other, until some gallant men bound from the ranks with a shout, and hurl themselves upon the enemy's trenches. Some twenty others will at once respond to this example, then the whole company follows the movement."¹

A Japanese officer goes so far as to say that there was but one method of attack, "namely, the selection and envelopment of one wing of the decisive point."² This caused the attacking troops to make wide turning movements, which the defenders met by extension of their front. The telegraph and the breech-loader had made such dispersal of forces much less hazardous than it would have been formerly, and 3000 men per mile was a sufficient allowance generally. Battles were prolonged by the distances to be covered, and by the power which modern weapons have given to a weaker force to hold its ground for some time against a stronger one. This caused the admirably planned envelopment of the Russian right at Mukden to prove less crushing than it promised to be. One Japanese brigade engaged in it lost 90 per cent. of its men in capturing and trying to hold a village. The strain of continuous fighting, day after day, exhausted both armies, and left the victors unable to follow up their success.

The Russian field guns were better than the Japanese, and were better horsed, but the gunners were unpractised in indirect laying, to which both sides found it necessary to have recourse. Rapid fire was little used because of the difficulty of supplying ammunition. Shrapnel was the most effective projectile against troops at ranges not exceeding 4000 yards. High explosive shells were useful against villages, but otherwise they did less than was expected. At first the batteries on both sides hung back,

¹ *R.U.S.I. Journal*, I. 1175.

² *Ib.*, II. 331.

and seldom shifted their positions except at night; but latterly the Japanese artillery became less cautious, followed the infantry in its advance, and gave it good support. Their mountain guns were very serviceable in the hilly country to the eastward. Towards the end of the war, machine guns were much used, especially by the Japanese. Their chief value was in defence. Attached to advanced guards, they helped them to hold ground that they had seized till other troops could come up. It was found best to carry them on pack animals, with tripod stands, and to work them in pairs.¹

In cavalry the Japanese were no match for the Russians: they were outnumbered, their horses were weak, and the men were not good riders. But though the country west of the railway was well suited to cavalry action, the Russians derived little advantage from their superiority. Mistchenko's big raid upon the Japanese communications in January 1905 was ineffectual, owing to the want of howitzers to make villages untenable. A raid made by two Japanese squadrons seems in fact to have had more result. They reached the railway north of Mukden, and blew up a bridge; this caused Kuropatkin to detach 8000 men from his army on the eve of the battle, to guard his line. The Japanese generally avoided cavalry encounters, and sent out mixed detachments for screening and reconnaissance. There was little scope for lance or sabre; the fighting was mainly on foot; and the Russian troopers, though trained as dragoons, shot badly. The 30,000 horsemen at Kuropatkin's disposal might have been treated as a mobile reserve of riflemen in the battle of Mukden; but there and elsewhere the Japanese cavalry seem to have been used in this manner to better purpose.

Infantry was emphatically the predominant partner in

¹ *R.U.S.I. Journal*, li. 450-457.

this war. The moral drawn from it, both by Russians and Japanese, was that regulations must be simplified, and initiative developed. "Our soldiers," says a Russian writer, "positively did not know how to fight without receiving the minutest detail of orders from their officers. . . . We must do our recent enemy the justice of acknowledging that they know how to fight *individually* whilst co-operating for a common object."¹ Russian officers regarded it as the chief advantage of night attacks that they could keep their men in hand, and bring them up in close formation without excessive loss.

Whilst modern war calls for men, not machines, in the lower ranks, there is something of an opposite tendency in the upper ranks. The higher leaders have less control of the fight than they used to have, and, owing to the telegraph wire, they have less independence. Their function is reduced at both ends. The commander-in-chief, while he has more control over his lieutenants, can see little for himself, and is in his turn dependent on his staff. His plans are more and more governed by supply and transport. There is less scope for brilliant strategy and tactics, for genius and *coup d'œil*; and the quality of "the brain of the army," or rather its nervous system, has become more important. Lastly, Japan has shown, as Prussia did before her, that a nation which means to win must put forth all its strength. Railways and telegraphs have increased the size of armies by facilitating their movements, and the numbers now called for can only be had by universal training for war.

¹ *R.U.S.I. Journal*, li. 1419.

TITLES OF THE WORKS REFERRED TO IN THE FOOTNOTES

- Abbott, J. H. M. *Tommy Cornstalk*. 1902.
- Aumale, H. Duc d'. *Histoire des princes de Condé*. 7 vols. 1869-96.
- [Aumale, H. Duc d'.] *Les Zouaves et les chasseurs à pied*. 1855.
- Baker de Swynebroke. *Chronicon* (edited by E. M. Thompson). 1889.
- Balagny, Commandant. *Campagne de l'Empereur Napoléon en Espagne*. 5 vols. 1902, &c.
- Balek, Captain. *Modern European Tactics* (translated by L. R. M. Maxwell). 1899.
- Barry, Gerard. *A Discourse of Military Discipline*. Brussels, 1634.
- Barwick, H. *A Brief Discourse concerning the Force and Effect of all Manual Weapons of Fire, &c.* 1594.
- Bland, Lieut.-Colonel H. *A Treatise of Military Discipline*. 1727.
- Blume, General W. *Wilhelm I. und Roon*. 1906.
- Boguslawski, Captain A. von. *Tactical Deductions from the War of 1870-71* (translated by Colonel Graham). 1872.
- Bourelly, J. *Le Maréchal de Fabert*. 2 vols. 1880.
- Brantôme, Sr de. *Capitaines Etrangers*. 2 vols. Leyden, 1699.
- Bueil, Jean de. *Le Jouvencel*. 2 vols. 1887-89.
- Bunbury, Lieut.-General Sir H. *Narratives of some Passages in the Great War (1799-1810)*. 1854.
- Butler, Lieut.-General Sir W. F. *Life of Sir George Pomeroy-Colley*. 1899.
- Callwell, Major C. E. *The Tactics of To-day*. 1900.
- Calvert, Sir Harry. *Journals and Correspondence* (edited by Sir H. Verney). 1853.
- Carlyle, T. *History of Frederick the Great*. 10 vols. 1873.
- Catinat, Maréchal de. *Mémoires et correspondance*. 3 vols. 1819.
- [Chabot, Brigadier de.] *Abrégé des commentaires de Folard*. 3 vols. 1754.
- Chadwick, H. M. *The Origin of the English Nation*. 1907.
- Chandos Herald. *Vie et gestes du prince Noir* (edited by Francisque-Michel). 1883.
- Charras, Lieut.-Colonel. *Histoire de la campagne de 1815*. Brussels, 1857.
- Chuquet, A. *Les guerres de la Revolution*. 11 vols. 1886, &c.

292 WORKS REFERRED TO IN FOOTNOTES

- Clarke Papers (edited by C. H. Firth). 4 vols. 1891-1901.
 Clinton-Cornwallis Controversy (edited by B. F. Stevens). 2 vols. 1888.
 Cockle, M. J. D. A Bibliography of English Military Books up to 1642. 1900.
 Colin, J. Campagnes du Maréchal de Saxe. Vol. I. 1901.
 Commynes, Philip de. Memoirs (edited by A. Scoble). 2 vols. 1855.
 Cornwallis Correspondence (edited by C. Ross). 3 vols. 1859.
 Coxe, W. Memoirs of the Duke of Marlborough. 3 vols. 1885.
 Dalton, C. Life and Times of Sir E. Cecil, Viscount Wimbeldon. 2 vols. 1885.
 Davila. History of the Civil Wars of France (translated). 1678.
 Davis, Colonel J. Historical Records of the 2nd Queen's (W. Surrey) Regiment. 6 vols. 1887-1906.
 Delpech, H. La tactique au treizième siècle. 2 vols. 1886.
 Denison, Lieut.-Colonel G. T. History of Cavalry. 1877.
 Derrécagaix, V. B. Le Maréchal Berthier. 2 vols. 1904-5.
 Duhesme, Général. Essai historique sur l'infanterie légère. (Reprinted.) 1864.
 Dundas, Lieut.-Colonel David. Principles of Military Movements. 1788.
 Duquet, A. La guerre d'Italie (1859). 1882.
 Duruy, A. L'armée royale en 1789. 1888.
 Fantin des Odoards, Général. Journal (1800-1830). 1895.
 Firth, C. H. Cromwell's Army. 1902.
 Fonblanque, E. B. de. Episodes from the Life and Correspondence of J. Burgoyne. 1876.
 Fortescue, J. W. History of the British Army. 4 vols. published. 1899, &c.
 Foy, Général. Histoire de la guerre de la Péninsule. 4 vols. 1827.
 Friedrich der grosse. Militärische Schriften (edited by General von Taysen). 1893.
 Fyler, Colonel. History of the Fiftieth Regiment. 1895.
 Gaya, L. de. Arms and Engines of War (translated). 1678.
 Geijer, E. G. History of the Swedes (translated by J. H. Turner). N.D.
 Gesta Henrici Quinti [by Thomas Elmham] (edited by B. Williams). 1850.
 Giraldus Cambrensis. Itinerarium Kambrise (vol. 6 of Opera, Rolls edition). 1861, &c.
 Goltz, C. von der, General. Rosbach et Jéna (traduit par Chabert). 1896.
 Goodenough, Lieut.-General W. H., and Lieut.-Colonel J. C. Dalton. The Army Book of the British Empire. 1893.
 Gouvion-St. Cyr, Maréchal. Mémoires. 4 vols. 1829-31.

WORKS REFERRED TO IN FOOTNOTES 293

- Govone, Général G. Mémoires (1848-70) (traduit par M. H. Weil). 1905.
- Green, J. R. The Making of England. 1881.
- Greene, Major-General F. V. The United States Army (*Scribner's Magazine*, September 1901).
- [Grimoard, General P. H.] Lettres et mémoires du Maréchal de Saxe. 5 vols. 1794.
- Guibert, J. A. H., Comte de. Œuvres militaires. 5 vols. 1803.
- Guicciardini. History of the Wars of Italy (translated by G. Fenton). 1618.
- Guischardt, C. Mémoires militaires sur les Grecs et les Romains. 2 vols. 1758.
- Gurwood, Lieut.-Colonel J. Selections from the Wellington Despatches. 1851.
- Hallam, H. View of the State of Europe during the Middle Ages. 3 vols. 1853.
- Hamilton, Lieut.-General Sir Ian. A Staff-Officer's Scrap-book. 2 vols. 1905-6.
- Hamley, General Sir E. The War in the Crimea. 1891.
- [Hare, F.] The Conduct of the Duke of Marlborough during the Present War. 1712.
- Henderson, Colonel G. F. R. The Science of War. 1905.
- " " Stonewall Jackson and the American Civil War. 2 vols. 1898.
- " " The Battle of Wörth. 1899.
- Herbert, W. von. The Defence of Plevna. 1895.
- Hexham, H. Principles of the Art Military. 1642.
- Hogarth, D. G. Philip and Alexander of Macedon. 1897.
- Hohenlohe-Ingelfingen, Prince Kraft zu. Letters on Infantry (translated by Lieut.-Colonel Walford). 1889.
- Home, Colonel R. A Précis of Modern Tactics. 1892.
- Hopton, Sir R. Bellum Civile (edited by C. Chadwyck-Healey). 1902.
- Houssaye, H. 1815: Waterloo. 1899.
- Jähns, Max. Geschichte der Kriegswissenschaften. 3 vols. (paged continuously). 1889-91.
- Jomini, Général. Précis de l'art de la guerre. 2 vols. 1838.
- Kane, General R. Campaigns of King William and Queen Anne, &c. 1748.
- Karl, Erzherzog. Militärische Schriften. 1882.
- Köhler, General-Major G. Die Entwicklung des Kriegswesens in der Ritterzeit. 2 vols. 1886.
- Köhler, C. Les Suisses dans les guerres d'Italie. Geneva, 1897.
- Kriege Friedrichs des grossen (Prussian Staff History). I. Theil. 3 vols. 1890-93.

294 WORKS REFERRED TO IN FOOTNOTES

- Kühne, Major. Das gefecht bei Trautenau. 1879.
- Kuropatkin, General A. N. Kritische Rückblicke auf den russisch-türkischen Krieg von 1877-78 (edited by Colonel Krahmer). 3 vols. 1887-90.
- La Chapelle, Count de. Posthumous Works of Napoleon III. in Exile (translated). 1873.
- La Noue, F. de. Politic and Military Discourses (translated). 1688.
- Lapéne, Capitaine E. Conquête d'Andalousie, &c. 1823.
- "Linesman." The Mechanism of War. 1902.
- Lloyd, General H. History of the late War in Germany. 2 vols. 1781.
- Longman, C. J., and others. Archery (Badminton Library). 1894.
- Luce, S. Jeunesse de Bertrand du Guesclin. 1876.
- Macdonald, Marshal. Recollections (edited by C. Rousset) (translated). 1893.
- Machiavelli, N. Works (translated). 1675.
- Maitland, F. W. Domesday Book and Beyond. 1897.
- [Malo, C.] Précis des campagnes de Turenne. Brussels, 1888.
- Marmont, Maréchal. De l'esprit des institutions militaires. 1845.
- Marquardt, J. De l'organisation militaire chez les romains (traduit par J. Brissaud). 1891.
- Mauvillon, J. Essai sur l'influence de la poudre à canon. Leipsic, 1788.
- May, Lieut.-Colonel E. S. A Retrospect on the South African War. 1901.
- [May, Captain.] The Prussian Campaign of 1866 (translated by Colonel Ouvry). 1870.
- Mendoza, B. de. Commentaires sur les évènements de la guerre des pays bas (1567-77) (translated). 2 vols. Brussels, 1860.
- Meyer, M. Technologie des armes à feu (translated by M. Rieffel). 2 vols. 1857.
- Moltke, Graf. H. von. Taktisch-Strategische aufsätze. 1900.
- " " Geschichte des deutsch-französischen krieges von 1870-71. 1891.
- [Moltke.] Campagne d'Italie en 1859. Berlin, 1862.
- Mommsen, T. History of Rome (translated by W. P. Dickson). 4 vols. 1887.
- Monk, George. Observations upon Military and Political Affairs. (Reprinted.) 1796.
- Monro, Robert. His Expedition with Mackey's Regiment. 1637.
- Montecuccoli, R. de. Mémoires, ou principes de l'art militaire (translated). Paris, 1712.
- Monthluc, Blaise de. Commentaries (translated by C. Cotton). 1674.
- Moore-Smith, G. Life of John Colborne, Lord Seaton. 1903.
- Morand, Général C. A. De l'armée selon la charte. (Reprinted.) 1894.

WORKS REFERRED TO IN FOOTNOTES 295

- Morris, J. E. The Welsh Wars of Edward I. 1901.
- Motley, J. L. History of the United Netherlands. 4 vols. 1869.
- Napier, Sir G. T. Passages in the Early Military Life of. 1884.
- Napier, Sir W. History of the War in the Peninsula, &c. 6 vols. 1892.
- Napoléon I. Correspondance. 32 vols. 1870.
- Napoléon III. Du passé et de l'avenir de l'artillerie (Œuvres, tome iv.). 1856.
- Nicolas, Sir H. History of the Battle of Agincourt. 1833.
- Noailles, Correspondance de Louis XV. et du Maréchal de (edited by C. Rousset). 2 vols. 1869.
- Œuvres posthumes de Frédéric II. 15 vols. Berlin, 1788.
- [Olberg.] Die französische armee auf dem exercir platze und im feld. Berlin, 1861.
- Ollivier, O. E. L'empire libéral. 12 vols. published. 1895, &c.
- Oman, C. History of the Art of War : the Middle Ages. 1898.
- Ompéda, Baron, Memoirs of. 1894.
- Orrery, Roger, Earl of. A Treatise on the Art of War. 1677.
- Pilcher, Colonel T. D. Some Lessons from the Boer War. 1903.
- Puységur, Maréchal de. Art de la guerre. 1749.
- Ramsay, A. M. Chevalier, de. History of Turenne. 2 vols. 1735.
- Randolph, H. Life of Sir Robert Wilson. 2 vols. 1862.
- Rochambeau, Maréchal de. Mémoires. 2 vols. 1809.
- Rohan, H., Duc de. Le parfait capitaine. 1642.
- Round, J. H. Feudal England. 1895.
- Rousset, C. Histoire de Louvois. 4 vols. 1872.
- " Le comte de Gisors. 1888.
- " Les volontaires (1791-94). 1870.
- Rüstow, W. Geschichte der Infanterie. 2 vols. Leipzig, 1884.
- " and H. Köchly. Geschichte des griechischen Kriegswesens. Aarau, 1852.
- St. Rémy, Jean le Fèvre, Sr de. Chronique (edited by F. Morand). 2 vols. 1876-81.
- Sawle, W. (Chaplain). An Impartial Relation of the late Campaign in Flanders. 1691.
- Saxe, Maurice, Comte de. Mes Rêveries. (Reprinted.) 1877.
- Scharnhorst, D. von. Die Franzosen im Revolutionskrieg (edited by A. Weiss). 1895.
- Scott, Sir Sibbald. The British Army. 3 vols. 1868-80.
- Ségur, Général P. de. Mémoires d'un aide-de-camp. Vol. III. (1813-15). 1895.
- Sheridan, General P. H. Personal Memoirs. 2 vols. 1888.
- Smyth, B. History of the Twentieth Regiment. 1889.
- Smythe, Sir J. Discourses concerning the Forms and Effects of Divers Sorts of Weapons. 1590.

296 WORKS REFERRED TO IN FOOTNOTES

- Stoffel, Colonel. *Rapports militaires écrits de Berlin*. 1871.
 „ „ *Histoire de Jules César: guerre civile*. 2 vols. 1887.
 Susane, Général. *Histoire de l'infanterie française*. 5 vols. 1876-77.
 Thiry, Commandant. *Histoire de la tactique de l'infanterie française (1791-1905)*. 1905.
 Toutey, E. *Charles le Téméraire*. 1902.
 Trochu, Général L. J. *L'armée française en 1867*. 1867.
 Vaissière, P. de. *Gentilshommes campagnards de l'ancienne France*. 1903.
 Vault, Général F. E. de. *Mémoires militaires relatives à la succession d'Espagne*. 11 vols. 1835-62.
 Vere, Sir Francis. *Commentaries*. (Reprinted in Stuart Tracts.) 1903.
 Victoires, conquêtes, &c., des Français (1792-1815). 27 vols. 1817-21.
 Villari, P. *Life and Times of Machiavelli*. 2 vols. 1892.
 Voltaire, F. M. Arouet de. *Précis du siècle de Louis XV*. (Œuvres complètes, tome 28.) 1826.
 Waddington, R. *La guerre de Sept Ans*. 4 vols. published. 1899, &c.
 Walton, Clifford. *History of the British Standing Army (1660-1700)*. 1894.
 Ward, Robert. *Animadversions of War*. 1639.
 Waterloo Letters (edited by H. T. Siborne). 1891.
 Williams, Sir Roger. *A Brief Discourse of War*. 1590.
 Wilson, Sir Robert. *Private Diary (1812-14)* (edited by H. Randolph). 2 vols. 1861.
 Wolseley, Sir Garnet. *The Soldiers' Pocket-Book*. 1874.
 Wright, R. *Life of General James Wolfe*. 1864.
 Young, Arthur. *Travels in France*. (Reprinted.) 1890.

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